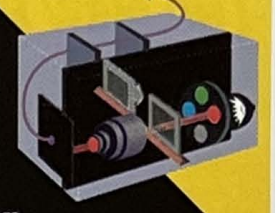
WITH GA
MacWEEK
30 January 1990 Vol. 4 No. 4 WORKSTATION NEWS

Color slide scanners *See Page 31*



GA on multimedia *See Page 19*

Adobe font code wins copyright

By Pamela Pfiffner

Mountain View, Calif. — Dealt a blow last September when it was forced to publish its specifications for Type 1 fonts, Adobe Systems Inc. struck back last week by announcing that it has received copyright registration for a Type 1 font program.

On Jan. 5, the U.S. Copyright Office ruled that the computer program, or PostScript code, that describes the shape of letters is protected under copyright law. "Typefaces are now on equal footing with other computer programs in terms of copyright protection," said John Warnock, chairman and CEO of Mountain View, Calif.-based Adobe.

To secure protection for its typefaces, Adobe effectively entered the Copyright Office through the back door.

The design of typefaces cannot be copyrighted. And as recently as September 1988, the Copyright Office rejected a bid to protect digital typefaces based on their data structures because bit-map or outline data is derived from an existing design and, therefore, is not an original expression of authorship. In this month's ruling, however, the Copyright Office recognized that the code that describes a font to a PostScript interpreter is essentially a computer program.

"What's copyrighted [in the new ruling] is the program that generates the typeface, the programmatic aspect of that representation," Warnock said. The ruling applies to Adobe's ITC Garamond

See Adobe, Page 10

March launch for IIxi

RISC-based color card in the pipeline

By John Battelle and Daniel Farber

Cupertino, Calif. — Apple is on course for a late March delivery of next-generation Mac IIx and color video products, according to sources close to the company.

As reported previously in MacWEEK (see MacWEEK Oct. 31, 1989), a new model currently called the Mac IIxi will kick up the clock speed of the 68030 central processor to at least 33 MHz. While seed units of the IIxi are running at 33 MHz, some reports indicate that Apple engineers are still considering upping the clock speed in production units to 40 MHz. The Mac IIx and the Mac IIcx, as well as the SE/30, run at 16 MHz and the Mac IIci at 25 MHz.

The IIxi's faster clock speed will be supplemented by other performance-enhancing features, including a cache card slot; direct memory access on the SCSI bus; and specialized I/O processors for the Apple Desktop Bus (ADB), serial ports and floppy disk drive.

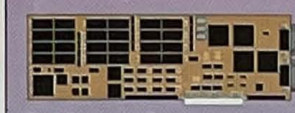
With an I/O processor to handle the ADB, for example, input devices with high bitstream rates, such as high-resolution digitizing tablets, would function at full bandwidth without taking compute cycles from the main processor.

In general, the IIxi is said to

See Mac IIxi, Page 9

On deck for March

Mac IIxi
- 33-MHz 68030
- Six NuBus slots



QuickDraw accelerator
- Am29000 RISC processor
- 24-bit color video

Color video card
- Expandable from 8 bits to 24 bits
- Works with most Apple displays

A/UX 2.0
- Finder-like interface
- Improved performance, networking

KEVIN BERGER

CD SC: Look, Ma, no fans

By Elinor Craig

Cupertino, Calif. — Apple this month disclosed a plan to sweep away the dust-related problems that have impaired operations of the AppleCD SC, its CD-ROM player, and to reimburse owners who have already paid for their players' drive-mechanism repairs.

Beginning this month, the $1,199 drives are shipping without fans, in boxes marked "No Fan." According to a service bulletin sent to dealers earlier this month, a "repair extension program" will begin Feb. 15. Sources close to Apple said the program will allow owners of older drives to have them repaired at authorized Apple dealers free of charge. The repair reportedly will consist of disconnecting the built-in fan and replacing the drive mechanism with a cleaned, refurbished one.

"We have discovered that the AppleCD SC fans increase the amount of dust and other airborne particles carried into drives as air is drawn in," the bulletin said. As the dust collects on the laser lens, the drive becomes prone to a variety of problems, ranging from missed data to an inability to recognize certain discs (see MacWEEK, Nov. 14 and 21, 1989).

Many users have long complained about the CD-ROM drive behaving erratically, and several

See CD-ROM, Page 9

Files, text spotted On Location

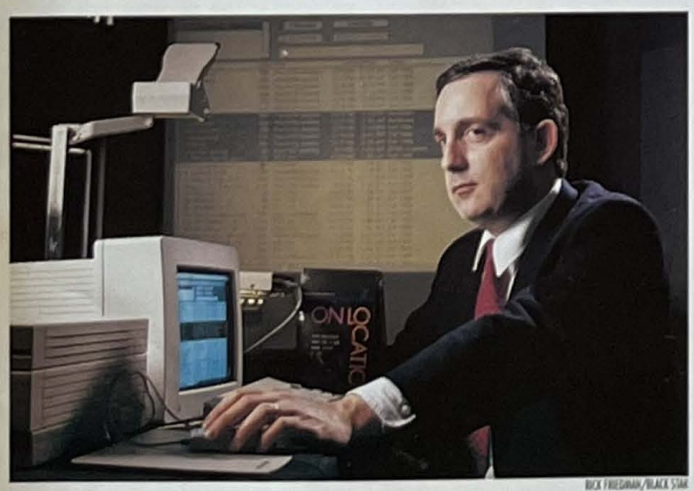
By Rick LePage

Cambridge, Mass. — Looking buoyant as he returned to the software marketplace, ON Technology Inc. Chairman Mitch Kapor last week unveiled On Location, a $129.95 utility that promises a drastic reduction in the time Mac users spend searching for files and text within them.

"Our target user is anyone who has spent more than five minutes today looking for files," Kapor said.

On Location, scheduled to ship at the end of February, is a desk accessory that uses a technology called digital signature compression to keep compact indexes of the names of all files on Macintosh volumes and the text within them. Indexes for multiple volumes can

See On Location, Page 9



RICK FRIEDMAN/BLACK STAR

Leaving both Hawaiian shirts and PC spreadsheets behind, Lotus Development Corp. founder Mitch Kapor last week dressed in pinstripes to demonstrate On Location.

A/UX: Just another GUI?

By John Battelle

Washington — Once a cryptic operating system reserved for government and university engineers, Unix was heralded as the open computing environment of the future by a throng of vendors, Apple included, at UniForum here last week.

All it needs, many agreed, is a good graphical user interface — known in the industry as a GUI.

There was no dearth of Unix GUIs competing on the show floor, and Apple attempted to distinguish A/UX, its implementation of Unix, by touting its links to the now-venerable Mac interface.

See UniForum, Page 10

LATE NEWS

Apple lays off 90 workers in Illinois

Cupertino, Calif. — A week after announcing a new cost-cutting campaign, Apple notified 90 employees that they will be laid off April 1 when the company closes its Chicago Support Center in Rolling Meadows, Ill.

Operations will be transferred to Charlotte, N.C., and laid-off employees will have first crack at 20 to 40 new jobs there, Apple said last week. □

Full Impact to add 3-D charts, Excel imports

San Jose, Calif. — An April update to Ashton-Tate Corp.'s Full Impact will include 3-D rotation of charts, according to sources familiar with the product. Other features to be added to the presentation spreadsheet include 15 custom macro buttons, a modified icon bar, custom formatting, and direct import and export of Microsoft Excel files. □

NEWSPAPER SECOND CLASS

CUSTOMIZED, RELATIONAL REPORTING ACROSS ALL PLATFORMS - THE NEW REASON TO OWN Macintosh® AT LARGE SITES.

WE ASKED.

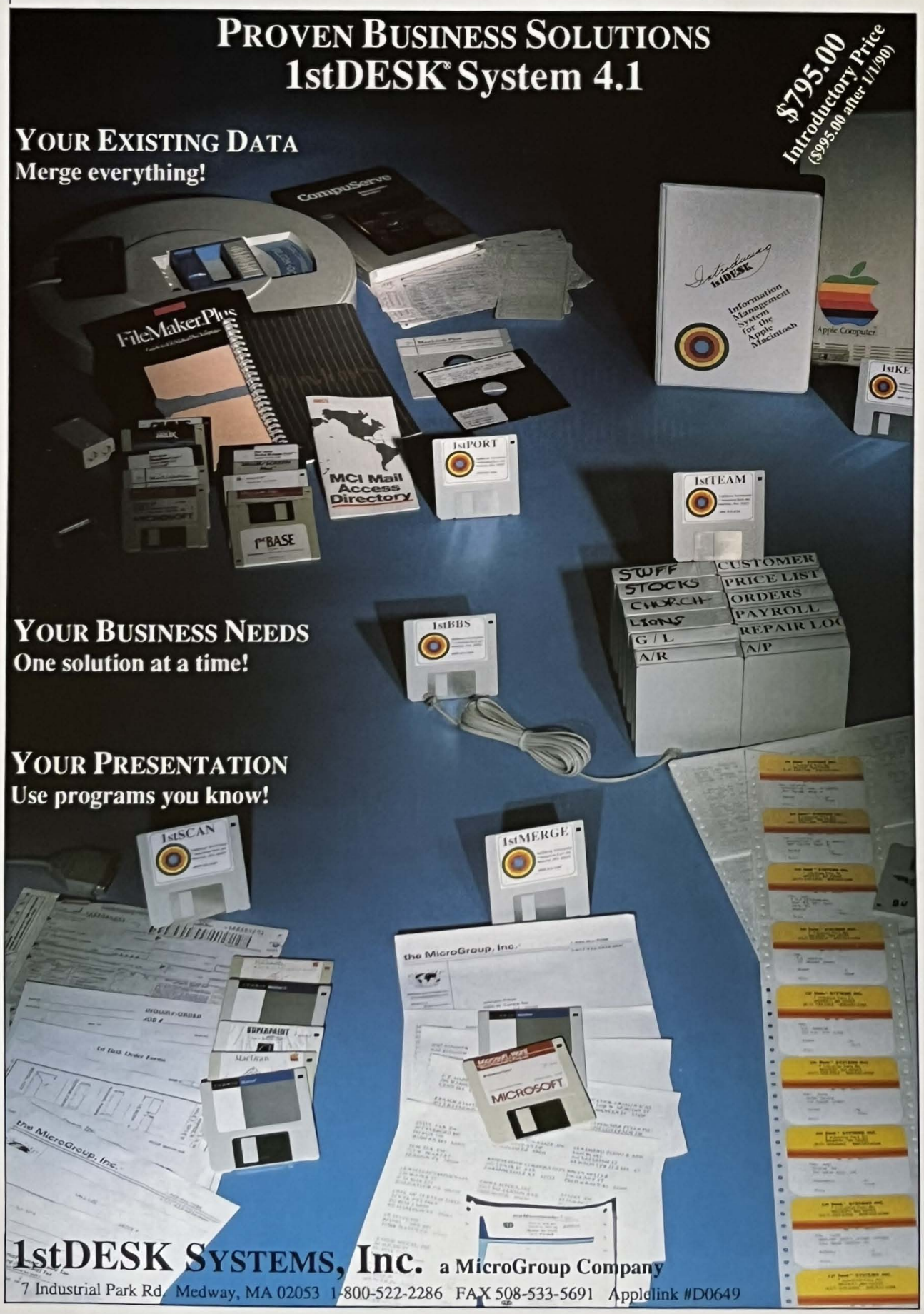
1986: MicroGroup®, Inc., a high tech metal component manufacturer buys a software company, creates 1stDESK Systems®. One of the earliest Macintosh power-users, we bought the company (Desktop Software) because we were unable to find a database on any brand machine that could adequately meet our needs. Admittedly, we didn't know anything about the software market except the fact we couldn't buy what we needed. *1stDESK's impossible game plan; build a strong reputation, restrict sales (a stall for time), target large mainframe sites ask for their "wish list".*

WE LISTENED.

1987: "Macintosh! You guys are crazy, Macs only do pictures, besides, this is IBM® turf!" However, since we were a power-user just like them, they skeptically listened - then wished. *"I need to get all my data in one machine, one format."* We demonstrated how 1stPORT and 1stBASE could do it!. *"My systems are good, but not at all flexible!"* 1stBASE quickly proved it could produce powerful *relational reports- Macintosh could do big jobs!* 1stMERGE printed laser mail merge using their own data. *"We don't have the manpower."* Large amounts of time are not required-easy to use and apply modules.

WE DEVELOPED.

1987: 1stDESK upgraded the old 1stBASE to 1stFILE. With 1stBASE, 1985 Mac-100 winner and top seller now current, we planned our future. *1stDESK would require a better "engine", simple like 1stBASE, but capable of building powerful, turnkey applications.* 1stPORT and 1stMERGE only needed a minimal amount of work. 1stDESK game plan was to be uniquely able to offer every aspect of data management, but we needed graphic forms, remote data access, and a user defined interface. We purchased products outright from other developers and opted for HyperCard for our front-end.



WE DID IT FIRST!

1stDESK System 4.1 is the reason to own Macs at a mainframe site.

The all new 1stDESK System 4.1, consisting of six stand-alone modules in a single box, can work together, be purchased singularly, tranparently share a standard file "buss", and can be HyperCard® interfaced if desired.

1st because we asked first and listened first.

USE Your Existing Data.

File Transfer and Conversion: 1stPORT®

1stPORT module is the only productive method to transfer and convert almost any data files from almost any sources, formatted or unformatted. Mainframe, minis, personals, bar code, scales, data acquisition devices, etc. *"Unformatted" is the secret to this wish list capability.* Other programs can convert from one format to another, but *only 1stPORT* can create a format from nothing. Ie. Send your report print file, in a columnar layout to the Mac via your printer cable, 1stPORT will create a usable data file! *Combine the power of 1stTEAM and 1stPORT to convert and merge almost data, redefine field lengths, position, create new fields subdivide fields, add fields, truncate, append, dedupe, relational join to create new files of matches or non-matches - did we miss anything?*

SOLVE Your Business Needs.

Data Processing & Reporting: 1stTEAM®

1stTEAM relational database engine *(really "relational", one file compared to another file - matches produce a third file)*, productively merges, analyzes, reports, joins, appends, converts to and from TEXT (not slow imports), and more. 1stTEAM is a complete processing and reporting system for maintaining mailing lists, tracking, order entry and inventory. Over forty English language "FUNCTIONS", including If-Then-Else-And-Or logic, provide in-depth analysis. 1stTEAM produces new data files, text files, reports, mail-merge, and multiple labels. *1stTEAM "MACROS" automate a system step by step. Create easy, singular solutions, then assemble these solutions later into a system. No need to plan ahead!*

Remote Database, E-mail, BBS: 1stBBS®

1stBBS does it all. To dial out and log on simply "click" the mouse. The unattended remote Macintosh answers. Using the mouse, you can leave messages, browse, transfer any files just like it was your own "local drive" or network. The power of 1stBBS is its unique ability to use 1stDESK data files via modem. *Search, add, and edit data files remotely - portable Macintosh software!*

User-Defined Interface: 1stKEY®

1stKEY HyperCard® Menu can be the control panel for your entire system - if you decide you need one. Jobs, forms, files, reports and MACROS, all mouse accessed from this user-defined interface. *VARS and consultants design your turnkey solution here!*

IMPROVE Your Presentation.

Graphic Forms: 1stSCAN®

1stSCAN creates an exact reflection of your *printed form as a database entry screen in a few seconds from any graphic file (scanned or drawn; MacPaint, PICT, TIFF).* Files created are 1stDESK standard, ready to enter up to 2 billion records, print with desktop publishing quality. 1stSCAN is also designed to be your powerful graphic interface featuring *patented FUZZY FIND. 1stPORT your data to/from Brand-X and 1stSCAN!*

Letters, Labels, Reports: 1stMERGE®

1stMERGE, *a list manager that directly merges 1stDESK files and your word processing program documents with just three clicks.* Create a form letter or label design in any word processing program, use "[ ]" brackets to define the data insertion points, Save-as-MacWrite. 1stMERGE types 1000's - each personalized.

HOW EASY IS 1stDESK Systems?

1stDESK advises new users:

Use programs before opening manuals!

Macintosh, Hypercard are Reg. TM of Apple Computer Co., Inc., 1stDESK, 1stTEAM, 1stSCAN, 1stMERGE, 1stBBS, 1stPORT, 1stKEY are TM of 1stDESK Systems, Inc.

FREE 30-DAY
"TEST DRIVE"
Call 1-800-522-2286

Please Call 508-533-2629 for group presentations

Mitem/Tri-Data link for host apps

By Rochelle Garner

Santa Clara, Calif. — Managers who want to make mainframe applications accessible and friendly to Mac users without modifying host code can now combine MitemView, Mitem Corp.'s HyperCard-based interface software, with Tri-Data Systems Inc.'s Netway Systems Network Architecture (SNA) gateways.

The companies announced here last week that MitemView now takes advantage of Tri-Data's 3270 application programming interface (API) to support multiple host sessions and communications with multiple hosts. The Netway API provides the procedural calls needed to establish 3270 sessions, manipulate on-screen data and transmit mainframe screens.

MitemView lets in-house developers create simple graphical interfaces for host applications. Tri-Data's Netway gateways function as 3174 cluster controllers on an SNA network, eliminating the need for token-ring, Ethernet or 3270 coaxial cards in each Mac. One Mac can serve as a gateway linking a LocalTalk LAN to the host.

The MitemView developers toolkit is priced at $995. The module with the 3270 API, necessary for MitemView and Netway gateways to work together, costs $495. Both are available from Mitem.

Mitem Corp. is located at 2105 Hamilton Ave., Suite 190, San Jose, Calif. 95125; (408) 559-8801.

Tri-Data Systems Inc. moved last month to a new location at 3270 Scott Blvd., Santa Clara, Calif. 95054; (408) 727-3270. □

AppleLink telecom software updated

Cupertino. Calif. — Apple this month released AppleLink Version 5.1.1, an update to the software used by employees, dealers, developers and other members of the Apple community to access the company's worldwide electronic communications service.

The new release offers several enhancements, including compatibility with the Mac IIci and Portable; Command-key equivalents that follow Apple interface guidelines; more flexibility in the program's built-in virus protection; forwarding of both open and closed memos; and support for the Mac Script Manager for non-Roman alphabets.

Version 5.1.1 and documentation are available on AppleLink for current subscribers. □

Virus Rx finds WDEF

Cupertino, Calif. — Apple last week released an upgrade to its Virus Rx virus-detection program. Version 1.6 detects the WDEF virus (see MacWEEK, Dec. 12, 1989) as well as other Mac viruses. Enhancements include keyboard shortcuts, more-informative documentation and features that let it check multiple disks automatically.

Virus Rx diagnoses viruses but does not remove or repair them. The program is available on AppleLink and through users groups and bulletin board services. □

Traveling Software set to ship LapLink Mac III

By Henry Norr

Bothell, Wash. — Traveling Software Inc. this week begins shipments of its LapLink Mac III Connectivity Pac, the latest version of its Mac-to-PC file-transfer package.

Besides doubling the speed of file transfers between MS-DOS machines and the Mac, the new version offers four ways of moving files between Macs: direct serial cable, modem, AppleTalk, and a SCSI link between a Mac Portable and a desktop Mac. A new LapLink Mac Accelerator device boosts Mac-to-Mac throughput to nearly 3 Mbytes per minute, the company said, and the new SCSI Disk Link feature promises transfers to and from the Mac Portable at up to 10 million bps.

LapLink Mac III is priced at $189.95. Customers who buy the previous version between Oct. 1, 1989, and March 16, 1990, may upgrade for $39.95; for other registered owners, the cost is $69.95.

LapLink Mac Network Pac, a $299.95 package that will allow up to five Macs to share files over AppleTalk, is due in March.

Traveling Software Inc. is located at 18702 North Creek Parkway, Bothell, Wash. 98011; (206) 483-8088. □

Mirror to debut bargain monitors

Roseville, Minn. — Mirror Technologies Inc. this week will introduce two new packages that push monochrome display system prices to new lows.

Mirror's PixelView I, priced at $667, features a 15-inch portrait monitor plus video card and cabling. The PixelView II, with a list price of $897, comes with a 19-inch dual-page monitor.

Both will sport a 78-Hz refresh rate, 72-dpi resolution, one-year warranty and 30-day money-back guarantee. Both will include tear-off menu software and a screen saver.

The display systems, which will be available by the end of February directly from Mirror, will work with the entire Macintosh family.

Mirror Technologies Inc. is located at 2644 Patton Road, Roseville, Minn. 55113; (612) 633-4450; or (800) 654-5294. □

News

4 Mac grabs for share of MIDI market at NAMM show

5 Revised Disk Express II en route to owners

6 Faxgate Plus makes faxing as easy as using MS Mail

6 QuickMail 2.2 aims at enterprisewide E-mail sites

6 **PageMaker color separation:** *Aldus PageMaker users can now use SpectreSeps PM to add both full process color and spot color to documents.*

11 VersaCAD gets module for architects

14 Mac turns Japanese with TransPac's TurboWriter

18 MediaMap guide puts networking a database away

Opinion

14 Editorial
In its struggle to win big business accounts, Apple has foregone the larger market at the low end. This strategy should be rethought.

54 Mac the Knife

Graphic Arts Report

19 **Adventures in desktop color:** *The creators of 'WhaleSong II,' a glossy color coffeetable book, showed the real-time use of desktop separations.*

19 Untangling the graphics file format confusion

19 AVA produces first full-length Mac-animated cartoon

22 Multimedia is here — but will it work for you?

24 Trade-show demo uses Mac and video

25 Animated HyperCard stack works in manufacturing

ProductWatch

31 **Comparison:** Slide scanners: Nikon LS-3500 vs. Barneyscan Slide Scanner

32 **MacInTouch:** *Image 1.22Y, a public-domain program for scientific image analysis, is remarkably powerful; PLP II driver gives ATM compatibility to users of the PLP I.*

34 **Review:** Vellum shows the way to CAD future

34 **Reviews in Brief:** Deneba's Canvas 2.1

BusinessWatch

51 **Academia beckons:** *Hugh Dubberly, creative director for computer graphics in Apple's Communications Design Department, to chair the computer graphics program at the Art Center College of Design.*

51 Warner turns to mass outlets for 'Magic Flute' CD

51 Connect vows to pull its operation together

52 Federal systems integrator ESL to offer NeXT

38 Mail Order

39 Ad Showcase

41 Ad Index

42 Classified

49 Career Opportunities

MacWEEK (ISSN 0892-8118) is published weekly, with the exception of Jan. 2, May 29, July 3, July 17, July 24, Aug. 28, Sept. 4, Nov. 27, Dec. 18 and Dec. 25, by Coastal Associates Publishing, L.P., One Park Ave., New York, N.Y. 10016. Single copy price including postage: $5. One-year subscription rate: U.S. $75, Canada/Mexico U.S. $150, International: U.S. $300 (airmail). All orders must be prepaid. Direct subscription inquiries to Customer Service Department, MacWEEK, P.O. Box 5821, Cherry Hill, N.J. 08034; (609) 428-5000. Changes of address require that a new application be filled out completely and include both new and old address. Allow 4-6 weeks for processing. Postmaster: Send address changes to MacWEEK, P.O. Box 5806, Cherry Hill, N.J. 08034. Second-class postage paid at New York and additional mailing offices. MacWEEK is an independent journal, not affiliated with Apple Computer Inc. Apple and Macintosh are trademarks of Apple Computer Inc. Entire contents copyright 1990 Coastal Associates Publishing, L.P. All rights reserved. Material in this publication may not be reproduced in any form without permission. Request for permission should be directed to Chantal Lovekamp, One Park Ave., New York, N.Y. 10016. MacWEEK is a trademark of Coastal Associates, L.P.

Mac developers carry MIDI beat to NAMM

Third-party products support MIDI Manager

By Jamie Krutz

Anaheim, Calif. — While Apple had no booth at this month's National Association of Music Merchants show here, it did its best to steer attendees away from the booths of IBM, Atari and Commodore and toward the displays of Mac third-party developers.

To ensure that attendees heard the Mac message at this exposition of MIDI and computer products for the music industry, an Apple-sponsored contest offered a chance to win a Mac IIci or SE/30 to anyone who visited five of 12 Mac developer booths.

Products on display at a number of booths support Apple's MIDI Manager System-level software, which lets multiple MIDI applications work together on the same Mac. MIDI, or musical instrument digital interface, is a serial communications protocol that allows music synthesizers to communicate with computers.

Among products shown were:

▶ Intelligent Computer Music Systems Inc. of Albany, N.Y., is shipping Upbeat, a $249 real-time rhythm sequencer that supports the MIDI Manager.

▶ Zero One Research of Brisbane, Calif., showed MIDI Mix 3D, a $149 desk accessory automated mix-down and synth control tool that also supports MIDI Manager.

▶ Mark of the Unicorn Inc. of Cambridge, Mass., demonstrated a new version of its $495 Performer sequencer, which features traditional notation editing as well as support for its new MIDI Timepiece hardware. Priced at $495, MIDI Timepiece gives the Mac 128 MIDI channels and supports the SMPTE (Society of Motion Picture and Television Engineers) time code for coordinating sound and picture frames. Four MIDI Timepiece devices can be connected to provide 512 MIDI channels. Until now, the Mac had been limited to 32 MIDI channels.

▶ Opcode Systems Inc. and DigiDesign Inc., both of Menlo Park, Calif., demonstrated a special version of Opcode's $695 Vision sequencing program, which now supports CD-quality digital stereo audio recording along with MIDI sequencing. Using DigiDesign's Sound Tools hardware, Vision can record a vocal, guitar or other analog stereo track into the sequencer. Opcode also introduced EZ Vision, a $149 entry-level version of Vision.

▶ Dr. T's of Chestnut Hill, Mass., introduced its Beyond sequencer, priced at $319, which lets users work with graphical representation of notes.

▶ Passport Designs Inc., based in Half Moon Bay, Calif., celebrated its 10th anniversary with Sound Exciter, a $79.95 program that turns the Mac into an eight-voice, eight-bit sampler, controlable from sequencers via MIDI Manager.

▶ Steinberg Jones, based in Northridge, Calif., showed a Mac version of its high-end, $495 Cubase sequencer ported from the Atari ST, along with its multitasking MIDI Realtime Operating System.

▶ Coda of Bloomington, Minn., introduced MusicProse, a simpler version of its Finale notation program. MusicProse lists for $249.

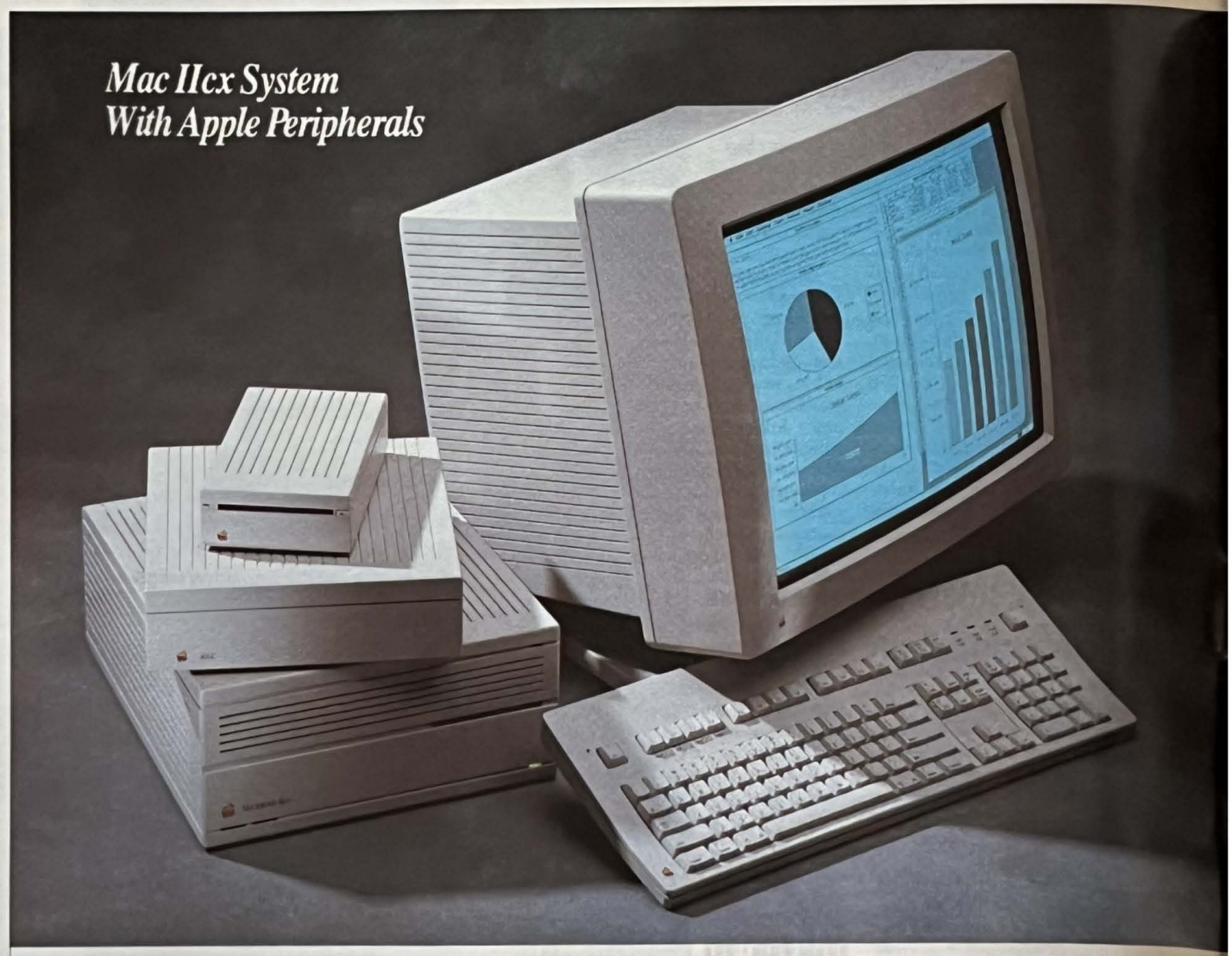
▶ In addition, several companies demonstrated icon-based authoring tools. Described as being "like HyperCard for time-critical applications," a program called Max lets users build MIDI and other applications by visually connecting objects. Now under development by IRCAM, the French national computer music laboratory, Max is expected to ship this year. Its price has not been set.

▶ HookUp! from Cambridge, Mass.-based hip software corp. offers icon-based programming and support for MIDI and MacroMind Director animations. It is priced at $149. □

Mac drums up music biz

Keyboard magazine's recent readership survey reveals that the Mac has gained wide acceptance in the music industry. Keyboard asked its readers what computers they now own: 25 percent have Macs; 21 percent, Atari STs; 19 percent, Commodores; and 26 percent, IBM PCs or compatibles.

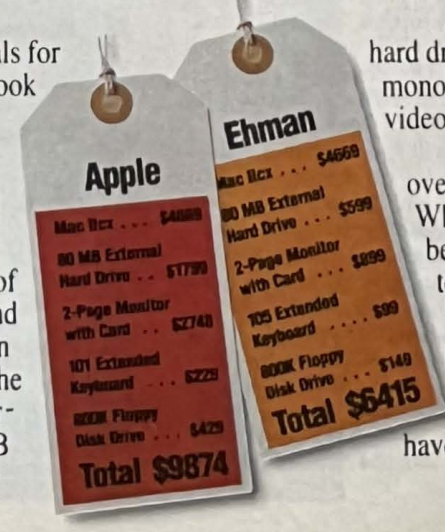
But the revealing figures describe purchases in the coming year. Fifty percent said they will buy Macs, 19 percent will buy Atari STs, 2 percent will opt for Commodore machines and 23 percent will buy PC compatibles.



Most Users Won't No
But All Buyers

Next time you buy peripherals for your Macintosh, make sure you look at the price tag and not just the label. You'll find big differences between Apple and Ehman.

First and foremost, Apple is in the business of making computers. Ehman is in the business of making computer peripherals. And since 1985 we've been out front in providing Macintosh users with the best combination of price and performance available. Like a 20 MB hard drive for just $299, or our new two-page monochrome monitor for only $899 including video card and tilt/swivel base.


Apple
Mac IIcx . . . $4699
80 MB External Hard Drive . . . $1799
2-Page Monitor with Card . . . $2749
101 Extended Keyboard . . . $225
800K Floppy Disk Drive . . . $429
Total $9874
Ehman
Mac IIcx . . . $4699
80 MB External Hard Drive . . . $599
2-Page Monitor with Card . . . $899
105 Extended Keyboard . . . $99
800K Floppy Disk Drive . . . $149
Total $6415

We can save you hundreds of dollars over a peripheral with an Apple logo on it. What's more, you'll enjoy the added benefits of a lengthy warranty, free direct-telephone support, free third-party utility software, a 30 day moneyback return policy and even an optional, overnight loaner service program.

And, if you thought you would have to make major concessions in quality,

Disk Express II back on track

By Henry Norr

Spring, Texas — It hasn't exactly been an optimal launch for Disk Express II, but publisher ALSoft Inc. said last week that incompatibilities encountered by some early users of the company's new disk optimization package have been remedied and that a free update will go to all registered owners next month.

The $89.95 Control Panel device (cdev) automatically consolidates fragmented files and moves them to an optimal disk location based on its analysis of usage patterns. The initial release of Disk Express II, called Version 2.0, shipped last month, but users discovered incompatibilities under some circumstances with System 6.0.2, The Freesoft Co.'s White Knight and other programs.

ALSoft President Larry Davis said that the company had received no documented reports of data loss and that most reported problems were solved by Version 2.0.3, a maintenance release shipped last month.

Last week ALSoft began shipping another update, Version 2.0.4, and Davis said it will be mailed to all registered users within 30 days. To prevent performance degradation, Davis said, the program no longer optimizes during serial-port activity, when disk I/O is occurring or immediately after other user activity.

ALSoft can be reached at P.O. Box 927, Spring, Texas 77383-0927; (713) 353-4090. □

tice The Difference,
Certainly Will.

think again. Our monitor has a flicker-free refresh rate higher than either Apple or Radius. And our hard drives are now significantly faster thanks to new caching software, and still come with reliability ratings up to 100,000 hours between failures.

So before you pay top dollar for a premium label, give Ehman a call at 1-800-257-1666 and see about an alternative that makes a very big difference—to your pocketbook. One look and you'll know why we're now the fastest growing peripheral manufacturer in the business.

Hard Drive Prices

Size (MB)	Internal	External
20	$299	$349
30+	$349	$399
45	$399	$449
60+	$479	$549
80+	$529	$599
105	$799	$899
135	$899	$999
180	$1,049	$1,149
45 Removable		$749

Ehman
The Apple Alternative

Seagate

Call 1-800-257-1666
or 1-307-789-3830
Fax 1-307-789-4656

The Ehman name and logo are trademarks of Ehman Incorporated. All other products mentioned are trademarks or registered trademarks of their respective holders. Prices subject to change without notice.

Helix support plan sets off alarms, but Odesta reassures

By Henry Norr

Northbrook, Ill. — Odesta Corp. this month launched a new technical-support program that it said provides a broader range of services for users of its Double Helix database program. The announcement has generated dismay among some customers, but the company said the reaction was due to a misunderstanding.

Subscribers to the new program, called Tech-Connect, will pay an $85 annual fee for unlimited telephone and electronic-mail support, a book about Double Helix, a subscription to a 12-page bimonthly journal, and discounts on other Odesta products and training.

Existing users are automatically enrolled in Tech-Connect until March 31, and new buyers will be enrolled free for 90 days upon registration.

What left some users grumbling was a letter announcing Tech-Connect to registered users. An underlined passage said that after April 1, "only Tech-Connect subscribers will receive authentic Double Helix support."

Several users immediately objected, according to Odesta. Paula Sigman, assistant archivist at the Walt Disney Archives in Burbank, Calif., a founding member of the 200-member Disney Macintosh User Group and a long-time Helix user, wrote to Odesta President Daniel Cheifetz that she was "extremely disappointed in Odesta's ... apparent lack of concern for its installed user base."

But Cheifetz said it was all a mistake attributable to "an unfortunate choice of words." He said Odesta will still answer basic questions from any user. Tech-Connect, he said, "just gives us a way to deal with a small group of people who call us every day and need a lot of hand-holding and a larger group who need a higher level of advanced support."

Corporate rates for the Tech-Connect program are available, and members of the $295 Odesta Developer Program are already covered, the company said.

Odesta Corp. is at 4084 Commercial Ave., Northbrook, Ill. 60062; (312) 498-5615. □

Excel developers to get beefed-up support option

Seattle — Microsoft Corp. last week announced a new support program for third-party and corporate developers creating templates, add-ins and custom applications in Microsoft Excel.

The program, announced at the third annual Excel Development Conference here, covers Mac, Windows and OS/2 versions of the popular spreadsheet program. In exchange for a $295 sign-up fee, developers next month will receive Excel reference guides and technical notes, a disk of sample macros and C source files, access to a special forum on CompuServe, and discounts on a variety of third-party products, among other benefits. Annual renewal fees will be $95, Microsoft said.

Excel Development Conferences also will be held Feb. 5-6 in New York and Feb. 19-20 in San Francisco.

For more information about the developer program, call (800) 227-6444, Department ET; for information on the conferences, call (800) 227-4679, Ext. 6239. □

Solutions gateway links fax, E-mail

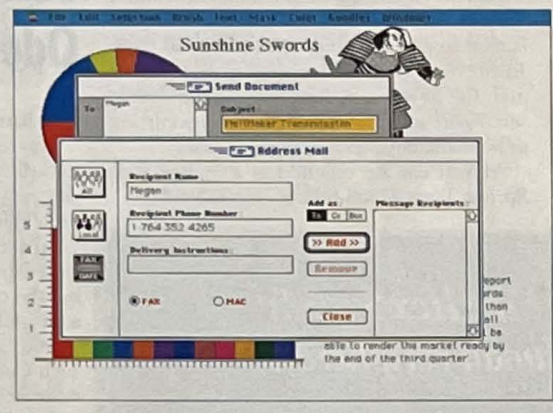
MailMaker keeps formats intact

By Carolyn Said

Williston, Vt. — Users of Microsoft Mail 2.0 will be able to send and receive messages and Macintosh documents in fax form with Faxgate Plus, a $395 gateway, and MailMaker, an "electronic printout" utility, both due from Solutions Inc. in mid-February.

Faxgate Plus, combined with Solutions' $245 BackFAX software and a BackFAX-supported fax modem attached to the mail server, makes faxing a mail memo to any Group 3 fax machine or fax modem as simple as sending regular Microsoft Mail messages, according to the company. If the recipient has an AppleFax-compatible modem, data files can be enclosed with the message.

Along with Faxgate Plus, Solutions will release MailMaker, a network version of the company's SuperGlue "print to disk" utility. The program lets electronic-mail users share electronic images of any type of document, with graphics, fonts and layout intact. With Faxgate, MailMaker files also can be sent to Group 3 fax machines or to supported fax modems.



With Solutions Inc.'s Faxgate Plus and MailMaker, Microsoft Mail users can fax any type of document from within the application, retaining all graphic, font and layout information.

"Without [Faxgate Plus and MailMaker] we'd have to create a word processing document, print it, then run it downstairs to fax it," said Scott Joy, a research associate at beta site Liberty Mutual Insurance of Portsmouth, N.H. "With this, we can send a document as a fax without ever leaving our workstations. It saves a lot of steps, both literally and figuratively."

The gateway will give every member of a workgroup direct access to a fax machine without the expense of multiple fax machines and dedicated phone lines, said Mary Evslin, Solutions president.

Incoming faxes must be received at one workstation designated by the network administrator, the company said. The recipient must then route the received faxes.

Solutions will deliver similar fax gateways for CE Software Inc.'s QuickMail in March and for TOPS' InBox in the summer, Evslin said.

A five-user MailMaker pack will be bundled with Faxgate. Additional copies of MailMaker are $40 for a single user, $195 for five users, $345 for 10 users, $595 for 20 users and $1,250 for 50 users.

Solutions Inc. is located at 30 Commerce St., P.O. Box 783, Williston, Vt. 05495; (802) 865-9220. □

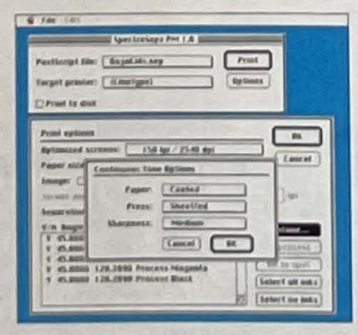
Color sep program for PageMaker users

By Carolyn Said

Carlsbad, Calif. — Promising users of Aldus PageMaker a way to color-separate their documents directly from the desktop, Pre-Press Technologies Inc. this month began shipping a new utility called SpectreSeps PM. The $295 utility produces full process-color and spot-color separations of multipage documents created in PageMaker Color Extension.

The program can separate colored type and graphics in PICT2, TIFF, Encapsulated PostScript and color bit-mapped formats. It supports continuous-tone images, such as scanned photos, entered directly or placed in a PageMaker document.

"It's a very specialized tool to do a specific job, and it does it well," said Chuck Surprise, general manager of Central Graphics, a San Diego-based service bureau and beta site for SpectreSeps PM. "Before this, if a PageMaker document was not type-intensive, we'd either re-create it in QuarkXPress to output it or do traditional hand stripping."



The TIFF image shown above (top) was color-separated with SpectreSeps PM from Pre-Press Technologies. The program separates Aldus PageMaker documents with color text, graphics and continuous-tone images in place. Separations are automatically adjusted for the type of printing press and paper used, as shown in the dialog box (bottom).

Aldus originally intended to ship a version of SpectreSeps PM, one without the ability to separate continuous-tone images, free to Color Extension owners. Instead, the company now plans a second-quarter ship date for Aldus PrePrint, a $495 separation program that also allows color editing of TIFF images (see MacWEEK, Nov. 21, 1989).

Pre-Press Technologies Inc. is at 2441 Impala Drive, Carlsbad, Calif. 92008; (619) 931-2695. □

For the Record

The price of Letraset's DesignStudio for owners of the company's Ready,Set,Go! program was given incorrectly in a review in the Jan. 23 MacWEEK. The correct price is $325 with the return of the Ready,Set,Go! manual and original disk.

The latest update to Preferred Publishers Inc.'s DAtabase desk accessory, identified in MacWEEK's Jan. 16 issue as Version 2.0, is actually Version 1.5, Preferred said.

QuickMail 2.2 aims at enterprisewide E-mail installations

By Carolyn Said

West Des Moines, Iowa — Simplifying access to enterprisewide connectivity, CE Software Inc. will soon ship a new version of QuickMail that adds "the capability to keep thousands of names [of electronic-mail users] at your finger tips," according to Dick Skeie, CE president.

QuickMail 2.2, due in early March, lets users search for E-mail addresses on their own LANs; remote QuickMail networks; or any service to which QuickMail offers gateways, such as AppleLink, Connect, MCI Mail, CompuServe, Unix E-mail systems, Digital Equipment Corp. MailBus services and INET services.

Users can search by first and last name, service, portions of the address, and mail centers.

Once users have found an address, they can add it to an address book for future reference. A Verify Addresses feature can be employed at the user's discretion to check addresses. An Aliasing feature lets users map new addresses to any other address.

The new QuickMail will let users annotate mail with brief voice messages. Voice messages, which can be recorded in the $249 MacRecorder Sound System from Farallon Computing Inc. of Emeryville, Calif., will increase mail access for "non-typing people who can use the mouse and their voice," Skeie said.

"Several functions previously available as separate modules will be built into the updated QuickMail," Skeie said. They include QM Menu, which lets users add a QuickMail menu to "virtually any" application; and QM Graphics, which lets users paste the Clipboard contents onto forms. QM-Link, the gateway to AppleLink, Apple's E-mail service, also will be included.

Other enhancements include additional print options; reverse sorting; Group, Find and Directory access in QuickSend; more QM Administrator reports; and an expansion of the folder limit from 96 to 127, according to the company.

QuickMail 2.2 will sell for $499.95 per 10-user pack, up from the current $399.95 price. Five-user packs will be $339.95, and one-user packs will be $189.95. Single-user add-ons without a server are $89.95. A 50-user pack is available for $2,299.95.

Upgrades are $95 for 10 users, $65 for five users, $35 for one user and $14 for a single-user add-on.

CE Software Inc. is located at 1854 Fuller Road, P.O. Box 65589, West Des Moines, Iowa 50265; (515) 224-1995. □

MacWEEK

Founder & Publisher Michael Tchong

EDITORIAL
Editor Daniel Ruby
Executive Editor Daniel Farber
Managing Editor Brenda Benner

News Group
Group Editor Henry Norr
Senior Editor Rochelle Garner
Associate Editor Connie Guglielmo
Editor at Large Dale Coleman
Technical Analyst Raines Cohen
Staff Reporters John Battelle, Elinor Craig, Edwin Garcia, Pamela Pfiffner, Carolyn Said

Technology Group
Group Editor Anita Malnig
Senior Editor/Reviews Becky Waring
Senior Technical Editor Ric Ford (Boston)
Senior Writer Rick LePage (Boston)
Associate Editor Cliff Lehman
Assistant Editors Stephen Howard, Janice Maloney

Information Specialist Nathalie Welch
Copy Editors Cate Corcoran (Copy Chief), Sue Troy (Desktop Publishing Chief), Anne Matera, Mitzi Waltz
Contributing Editors Clay Andres, Don Crabb, Steve Hannaford, Vernon Keenan, Dennis Klatzkin, Jonathan Littman, Steve Michel, Steve Rosenthal, Ezra Shapiro, Laslo Vespremi, Joel West

ART AND PRODUCTION
Associate Publisher Barri Klingaman
Art Director Eleanor Leishman
Associate Art Director Laura Stoll
Designer Gary Suen
Photo Editor Jonathan Hornstein
Infographic Specialist Nevin Berger
Production Manager Carolyn Beaham West
Technical Manager Henri Froissart
Graphics Technician Rick Valdez
Graphic Artist Tamara Gargus
Ad Coordinator Michelle Gargus

MARKETING
Associate Publisher Ted Welch
Advertising Managers Nancy Carter, Jeff Cohen, Jane Fitzwilliam, Michael Lamattina, Michele Lipstein, Peter Stangel
Account Executives Carla Daiss, Leslie Hupp, Kathy Kottenbach, JoAnn Sturtridge, Deborah Tarantino
Sales Development Manager Cynthia Koral
Circulation Director Robert Smahl
Circulation Coordinator Chris Giarraputo
Promotion Director Cynthia Ahart
Research Director Griffin Dix
Business Manager Karen Brannan
Administrative Assistants Elizabeth Carney, Jennifer Ambrulevich, Chris Vyhnalek

COASTAL ASSOCIATES PUBLISHING
President J. Samuel Huey
Vice President J. Scott Briggs
Vice President Controller John Vlachos
Vice President Operations Baird Davis
Treasurer William Phillips
Secretary J. Malcolm Morris

Editorial and advertising offices: 301 Howard St., 15th Floor, San Francisco, Calif. 94105; (415) 243-3500. Boston editorial office: 4 Cambridge Center, Third Floor, Cambridge, Mass. 02142; (617) 497-2600.

MacWEEK is produced using an in-house system of: Apple Macintosh SEs and Mac IIs; LaserWriter, Varityper VT-600 and VT-600W, and QMS ColorScript 100 printers networked on Farallon PhoneNet; a Linotronic 300, Nikon LS-3500 Slide Scanner; RasterOps, E-Machines and SuperMac monitors; and software including QuarkXPress, Adobe Illustrator 88, Aldus FreeHand, SuperPaint, Photoshop, PixelPaint and Microsoft Word.

BPA

More Rave Reviews for the #1 SQL Database.

PC WEEK

Oracle for Mac Solves DBMS Puzzle

SQL/HyperCard Combo Produces Sophisticated Applications

By Susan Janus

Database giant Oracle Corp., of Belmont, Calif., recently rounded out the list of platforms supported by the company's relational database-management system (DBMS) with the release of Oracle for Macintosh.

The new Mac DBMS teams the power of Oracle's Structured Query Language (SQL) with HyperCard's customizable and easy-to-use interface.

This combination allows Mac developers to create sophisticated applications that appear simple to users—a unique software-development opportunity unavailable on any other platform, including the PC, according to early corporate users we contacted.

In addition, users said, the network version of Oracle for the Mac allows the advantages of the HyperCard interface to serve as a front end to existing corporate relational databases residing on other platforms, such as mainframes and minicomputers.

Consequently, the Mac software has great potential for s... ...ed

oping database-manageme... systems to connect departmental Macs to larger systems. Jeff Menz, a systems analyst for a scientific R and D organization, is currently using Oracle for Macintosh to develop a system that will give the company's numerous Mac users access to an Oracle database running on a VAX. Using the networking version, Menz will link departmental AppleTalk networks to the VAX over a TCP/IP network.

Oracle Provides the Groundwork

The key benefit of Oracle's product is that "all the fundamental technical work—the protocols, the compatibility with the AppleTalk network—has been done by Oracle," Menz said. "I just have to build the HyperCard interface and do the database design work."

The result will be an Oracle relational database application on the VAX with a HyperCard front end that Mac users feel comfortable with, he explained. Also, the company will have one logical relational database instead of numerous fragmented local databases. This allows tighter security, improved data integrity and better performance, he added.

Oracle for Macintosh

DBMS Brings New Power and Face to Mac Application Development

WHAT CORPORATE BUYERS LIKE

- Offers SQL capabilities
- Uses HyperCard to mask complexity of database applications
- Serves as front end to relational databases on other platforms
- Can link different Oracle database platforms with network version
- Provides good documentation and support

"ORACLE for Macintosh is a well-designed product...a programmer can, with just an hour's training, create a database on a host with a simple Macintosh interface in three minutes—honest." ★★★★

MacUser, June 1989

"ORACLE for Macintosh is exciting for companies that have Oracle (or DB2) databases on a mainframe and want a practical Mac data entry and development system."

MacWeek, March 14, 1989

"Get yourself a copy of ORACLE for Macintosh and get a flexible toolkit that can be molded to solve just about any database problem."

MacGuide Magazine, June 1989

ORACLE®

COMPATIBILITY · PORTABILITY · CONNECTABILITY

Call 1-800-ORACLE1, ext. 7769 today.

Only $199 until Feb. 28.

Get the number one SQL database for Macintosh until 2/28/90 for only $199. With our 30-day money-back guarantee, the only thing you stand to lose is a great buy. Call today. Or fill out and mail this coupon.

Dear Oracle Macintosh Direct Sales
20 Davis Drive • Belmont, California 94002
1-800-ORACLE1, ext. 7769

Please send me the Stand-alone Version of ORACLE for Macintosh for $199.[1] Enclosed is my ☐ check, or ☐ VISA ☐ M/C ☐ AmEx credit card authorization for: $ 199.00

Please add appropriate sales tax $_____

Shipping and handling $ 15.95

Total *(Offer valid only in USA and only until April 15, 1990)* $_____

NAME TITLE

COMPANY

STREET *(no P.O. boxes, please)*

CITY STATE ZIP

TELEPHONE

CREDIT CARD NO. CARD EXPIRATION DATE

SIGNATURE TODAY'S DATE MAC.WEEK

[1]Stand-alone version licensed for developers only. Requires Macintosh SE or II with 2 Megabytes of RAM, 5 Megabytes of hard disk space, floppy disk drive, and HyperCard 1.2. Includes 30-day installation support. ORACLE database, Hyper•SQL (HyperCard Interface), SQL•Plus, OCI and Pro•C (Macintosh Programmer's Workshop is required for programming usage), System Stacks and Example Stacks. Full networking version is $999 and includes SQL•Net (for database communications), Async, 3270, DECNet, TCP/IP support, Alisa System's TSSnet, DECnet protocol and drivers and Kinetic's TCPort TCP/IP protocol and driver. Accessing database software on other machines requires a separate protocol handler and gateway software for the other machine. Call for additional information.

Copyright ©1990 by Oracle Corporation. ORACLE is a registered trademark of Oracle. The other companies mentioned own numerous trademarks. TRBA

FASTBACK:
BY POPULAR DEMAND

(Now available on tape.)

World Premiere!

You asked for it! You've waited for it! Now the leader in backup technology proudly presents *the ultimate tape backup system for the Macintosh.*

- Starring the ultra-reliable **Fastback Tape** high-density tape drive.
- Co-starring **Fastback II,** the world's fastest and most reliable backup software.
- And a **cast of 120 million** (bytes, that is)—120 megabyte tape capacity.
- Featuring automated *schedule backup* macros for foolproof **unattended backups,** extremely simple installation and operation, advanced error correction, up to 80% data compression, and more.

Now showing at a dealer near you. Or, call 1-800-873-4384 for a complete list of **Fastback Tape** features and specifications.

FIFTH GENERATION SYSTEMS

10049 N. Reiger Road Baton Rouge, LA 70809 (504) 291-7221 This product is in no way associated with or has origination in Fisher Scientific

Mac IIxi

From Page 1

improve system performance over the IIci by 60 percent to 100 percent, depending on the operation, sources said. The six-slot machine will cost between $10,000 and $12,000, sources said.

As also reported earlier, Apple will enter the 24-bit "true-color" market with two offerings, a four- and eight-bit card expandable to 24 bits and a separate true-color card with a RISC (reduced instruction set computing) processor to accelerate screen redrawing and other operations.

The expandable card will likely replace the present four- and eight-bit Portrait and Two-Page Display cards as a universal color and gray-scale video card for Mac NuBus systems.

The accelerated card features an on-board Am29000 chip from Advanced Micro Devices Inc. of Sunnyvale, Calif. The chip, available at clock speeds ranging from 16 to 33 MHz, boasts sustained performance of 12 to 22 mips. "The 29000 is an excellent chip; it's low-priced and has a lot of computing power for computationally intensive applications," said Trevor Marshall, president of Yarc Systems Corp. in Agoura Hills, Calif., whose company manufactures Am29000 coprocessor cards for the Mac II line.

Apple is not the first company to enter the field of QuickDraw acceleration for the Mac II. Sunnyvale, Calif.-based SuperMac Technology offers the Spectrum/24 Series III, a $4,499 board that combines 24-bit display with acceleration achieved through custom ASICs (application-specific integrated circuits) on a daughterboard. Radius offers a $795 RISC-based NuBus board that works with its $4,095 DirectColor/24 24-bit color board. Cupertino, Calif.-based RasterOps Corp. is also reported to have a display acceleration card, also based on custom silicon, in the works.

System 6.0.5, an update required for the IIxi, will be introduced along with the new CPU.

In addition to the IIxi, Apple is expected to announce, but most likely not ship, A/UX 2.0, a more Mac-like implementation of its Unix environment (see story, Page 1). □

On Location

From Page 1

be created, and users can search for file names or the text even if the volume is not mounted on the desktop.

A Startup document (INIT) allows On Location to take note when a file is created or saved. As soon as the Mac is idle, the program indexes the file's name and contents in the background, assuring up-to-date indexes when performing searches.

Once a file has been found, its textual contents, complete with formatting, can be viewed in a separate window, without having to launch the application that created the document. Text can be copied and pasted elsewhere, although On Location cannot modify a viewed file.

Gordie Sands, systems manager at Reebok International Ltd. of Stoughton, Mass., and an On Location beta tester, said he likes the program's completeness and speed.

"In comparison with what we are used to, the performance is truly stunning," Sands said.

ON Technology is backing up the new program with a support policy Kapor called unique in the computer industry: a one-year money-back guarantee.

"It is comparable with businesses in other environments, such as L.L. Bean or Nordstrom," he said. "The PC industry just hasn't caught up."

On Location is the first third-party product to use Claris Corp.'s XTND file transfer technology (see MacWEEK, Oct. 3 and Oct. 10, 1989). XTND allows On Location to display the completely formatted text of most Mac word processing applications, including the current versions of Claris' MacWrite II, Microsoft Word and T/Maker Corp.'s WriteNow. When used with DataViz's MacLink Plus/Translators, On Location also can view formatted text in a number of IBM PC word processor formats.

ON Technology Inc. is located at 1 Cambridge Center, Cambridge, Mass. 02142; (617) 225-2545. □

CD-ROM

From Page 1

developers attributed the problem to dust. Apple confirmed the reports in November and promised a solution soon.

Apple sources said that the extensive testing has shown that there is no danger of the Sony-built drive overheating even without a fan. Company sources described the original design as a case of "over-engineering."

Robert Burr, president of Quantum Leap Technologies Inc. and one of the developers who first diagnosed the problem, said: "I have no reason to believe that this fix won't work. Let's applaud Apple for coming up with a good solution."

In conjunction with the repair program, Apple also is expected to release Version 3.0 of its CD-ROM software, an update that will make the drive compatible with the Macintosh IIci. □

QUALITY TIME

You Have Better Things To Do Than Back Up

If you can think of better ways to spend your time than backing up your hard disk, you need Fastback II. It's the world's fastest and most reliable backup software for the Macintosh. It's also the easiest to use, with simplified file selection, adaptable data compression, advanced error correction and other features to make your backups fast and foolproof.

You can even schedule *automated backups* to take place at any chosen time. Even when you're otherwise occupied.

After all, you have better things to do.

This product is in no way associated with or has origination in Fisher Scientific or Allied Corporation.

FIFTH GENERATION SYSTEMS

10049 N. Reiger Road Baton Rouge, LA 70809 (504) 291-7221

For a complete list of features and specifications, or the name of your nearest dealer, call 1-800-873-4384.

Adobe

From Page 1

Light, but the company said it will move to register all of its Adobe Original Typeface programs.

To help Adobe prove its case, type rival Bitstream of Cambridge, Mass., submitted its version of ITC Garamond to the Copyright Office. When compared, the letterforms appeared identical, but the descriptive code was not.

Bitstream President and CEO Rob Friedman said his company aided Adobe because both companies, as well as the entire typeface industry, stand to gain from copyrighting typefaces.

"It is in our mutual interest to have intellectual property protection so it will continue to make sense for us to make new products," he said.

The impact on users will be minimal, unless they plan to resell programs based on the copyrighted typeface.

The copyright can be applied to derivative works, Adobe said, but what is legally a derivative work is a murky area. Font-manipulation programs do not violate Adobe's copyright as long as the user owns the font in question, the company said.

Adobe and other type vendors have been seeking copyright protection for years, but the timing of the ruling is "absolutely critical," according to typeface designer Charles Bigelow of Menlo Park, Calif.-based Bigelow & Holmes. "Once they release Type 1 specs, it will be easier for people to crack open the fonts and see what's there. Now, even if you have Adobe specs, you still can't take that precise information and resell it." □

INTRODUCING NEW DISKLOCK

Unbreakable password protection for the Macintosh

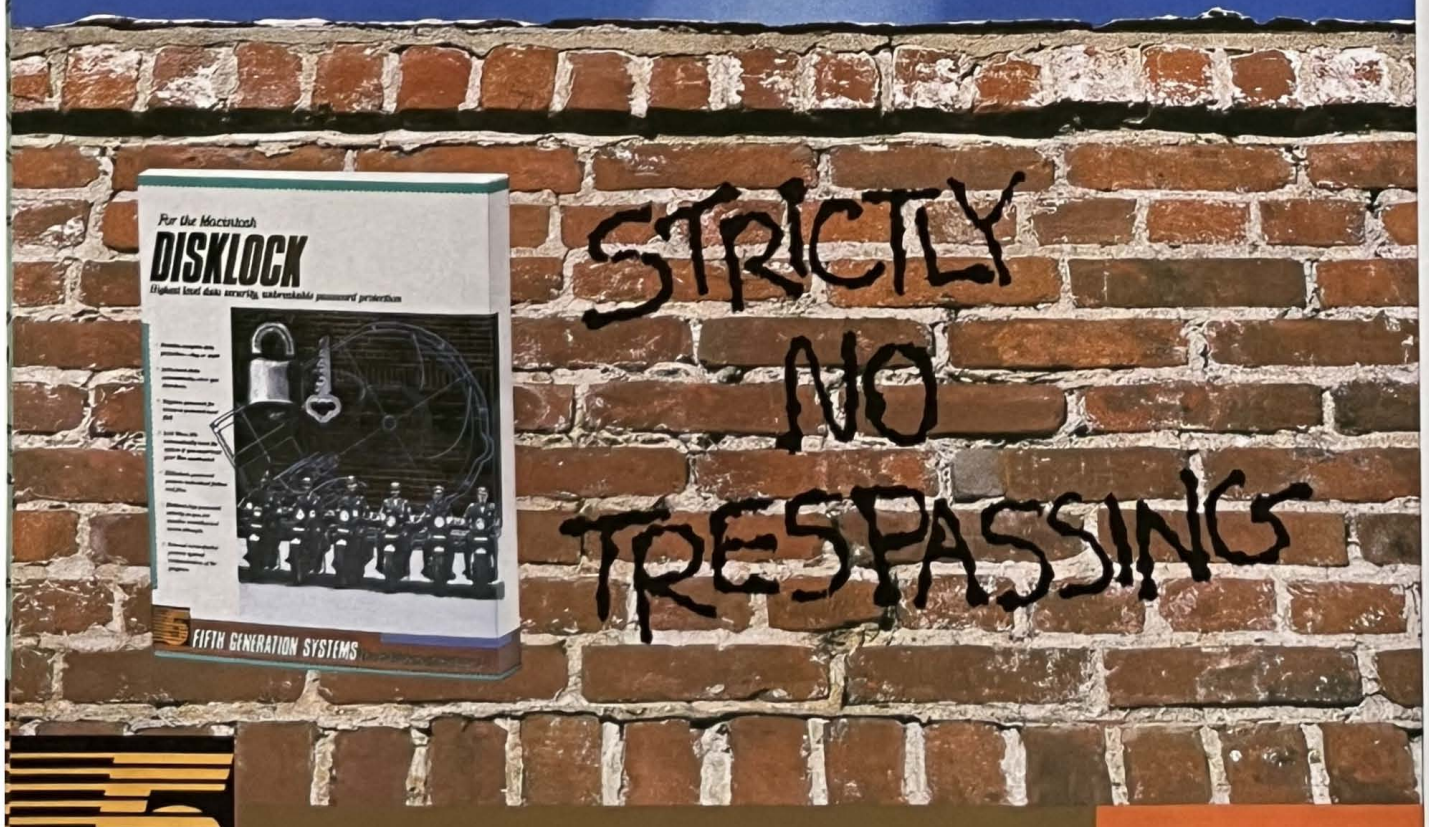
It's sad but true. All it takes is a few minutes with your back turned, and an intruder could walk away with your most confidential data. *And you'd never even know it!*

Unsurpassed Password Protection
Now the leader in hard disk security announces the ultimate data protection system for your Macintosh. **DiskLock** works with any SCSI hard disk to provide foolproof password protection for individual files, folders, or your entire hard disk. You can even protect *all three levels* with different passwords for absolute maximum security. **DiskLock** automatically locks your files when you shut down or leave your Mac unattended, and alerts you to any unauthorized access attempts.

Sophisticated Data Encryption
State-of-the-art data encryption adds yet another layer of security. Without the proper password, your confidential files appear to contain nothing but gobbledygook!

Multiple Security Levels.
DiskLock lets you give each user password access to *just the files you choose* (word processing files for your secretary, accounting files for your bookkeeper, etc.). The *master* password gives you access to all files and folders.

Virus Protection, too!
If **DiskLock's** automatic virus checker detects an infection when you log in to a file, it notifies you and stops running immediately.



FIFTH GENERATION SYSTEMS
10049 N. Reiger Road Baton Rouge, LA 70809 (504) 291-7221

For a complete list of features and specifications, or the name of your nearest dealer, call 1-800-873-4384.

UniForum

From Page 1

The present incarnation of A/UX, Version 1.1.1, runs "32-bit clean" Mac applications, programs written to the exacting guidelines in Apple's "Inside Macintosh" programming bible. However, Version 1.1.1 still lacks a Finder-like interface, requiring users to be Unix-competent. Sources familiar with A/UX 2.0, Apple's next release, say it will include a Finder "shell" and be compatible with Mac networking protocols.

Apple also showcased MacX, its version of the X Window platform-independent Unix application environment. Honeywell was in Apple's booth showing off the WIS, a workstation based on the Mac IIx and A/UX that it created expressly for the U.S. Air Force under the contract Apple and Honeywell won last August (see MacWEEK, Sept. 12, 1989).

Many visitors to Apple's booth were impressed with what they saw. "This is exactly what we need to incorporate our Macs into our Unix environment," said B. Keith Ryder, systems administrator at GTE Telecom Inc. in Colorado Springs, Colo. Ryder said he hopes that MacX will eventually allow him to integrate X Window and Mac applications, keeping both on screen simultaneously.

Delivery schedules for both products are lagging, however. MacX will not ship until the second quarter at the earliest, Apple officials said, and would-be beta testers of both MacX and A/UX 2.0 are restless.

"I have major projects waiting, and if I don't get something soon, I may go [to another platform]," said a systems engineer who asked to remain anonymous. Others said Apple has yet to give them a date they will receive A/UX 2.0 beta software.

"I doubt [Apple] will ship A/UX with the IIxi," said one source, referring to the high-powered Mac workstation Apple reportedly intends to unveil in March (see story, Page 1). "But they may announce it then."

Apple did announce that it is lowering the price of its A/UX support line to $1,175 per year for unlimited toll-free calls.

Several third-party Mac-to-Unix developers were at the show:

▶ UniSoft, the Emeryville, Calif., company that originally brought the Unix kernel to the Mac, demonstrated a bare-bones, non-A/UX implementation of AT&T's latest version of Unix, Release V.4, running on a Mac. UniSoft officials touted the Mac as an inexpensive platform for V.4 development, even though Apple has not committed to upgrading A/UX to Release V.4. The Apple system supports System V, Release 2.2 and extensions.

▶ list Spa of Pisa, Italy, showed MacNIX, which maps a Mac-like interface onto Unix terminal sessions. Owned in part by Apple, list Spa plans to expand into the U.S. market in the next few months.

▶ White Pine Software Inc. of Amherst, N.H., demonstrated a color version of its eXodus X Window server for the Mac. It should be available in March, the company said.

▶ The Wollongong Group of Palo Alto, Calif., demonstrated MacPathWay Access, a Mac-to-TCP/IP software gateway; and Cayman Systems Inc. of Cambridge, Mass., showed its GatorBox Mac-to-Unix gateway.

▶ Paragon Imaging of Lowell, Mass., unveiled Visualization Workbench, a $3,500 A/UX-based imaging program that follows the X Window interface guidelines, while Chantilly, Va.-based IMIX Corp. showed its IMIX Image Management System.

▶ Mt. Xinu Inc. of Berkeley, Calif., introduced K-Spool, software that lets Macs and Sun computers share printers over a network, and Sony Corp. demonstrated its "Worknetting Server," a Sony NEWS Unix workstation running as an AppleShare server. □

Fund-raising software aimed at non-profits

Nashua, N.H. — Commtact/ELS 2.0 from Campagne Associates Ltd. is designed to help non-profit organizations automate fund-raising tasks by combining mailing list, membership and fund-raising management capabilities into one application.

The program, based on Blyth Software Inc.'s Omnis 5 relational database, features a complete contribution processing and reporting section, ad hoc reporting, automated thank-you and reminder letters, an extensive set of mailing list options, and a complete membership tracking and renewal system.

The software itself, including a runtime version of Omnis, is priced at $795, and an annual support program providing unlimited telephone support and free upgrades can be purchased for an additional $195.

Campagne Associates Ltd. is at 491 Amherst St., Nashua, N.H. 03063; (603) 595-8774. □

ACIUS ships tool for 4D developers

Cupertino, Calif. — ACIUS Inc. this week will begin shipping a development tool for 4th Dimension programmers that lets users create applications by combining components of existing 4D programs.

Priced at $150 for registered 4D developers and at $200 for others, 4D Mover provides a Font/DA Mover-style interface for copying files and associated objects, layouts, global procedures, menu bars, choice lists, and external routines from one 4D database to another.

"4D Mover is the most important add-on you can get for 4D right now," said Tony Oppenheim, president of Options Computer Consulting in New York. "With 4D Mover, you can even move entire file structures in a few minutes. In addition, multiple programmers can work on different parts of a program and later combine them."

4D Mover was previously marketed by its developer, After Hours Software Corp. of Van Nuys, Calif., under the name Layout Mover.

ACIUS Inc. is at 10351 Bubb Road, Cupertino, Calif. 94014; (408) 252-4444. □

Power Up updates, renames ExpressWrite

San Mateo, Calif. — Power Up Software Corp. last week released Letter Writer Plus, a desk accessory that lets users compose and print letters while working in any application.

The $89.95 DA supports multiple fonts and styles, scaling of pasted-in graphics, stationery templates, mail merge, a preview mode, and printing of envelopes in standard or custom sizes.

The new product is an enhanced version of ExpressWrite, a program released last year by Exodus Software of Cincinnati. The new version adds graphics in headers as well as built-in links to Address Book Plus, Power Up's name and address management program. Upgrades will be sent free to registered ExpressWrite owners, Power Up said.

Power Up Software Corp. is located at 2929 Campus Drive, San Mateo, Calif. 94403; (415) 349-5900. □

Versacad adds Architect module

By Rochelle Garner

Huntington Beach, Calif. — Responding to the need for specific tools for specific jobs, Versacad Corp. has released an add-in module that gives VersaCAD/Macintosh Edition additional features for interior design.

Priced at $295, VersaCAD/Architect provides:

▶ A range of door and window styles in standard construction-industry sizes. Doors and windows can be placed anywhere on the floor plan, with wall lines automatically breaking to fit.

▶ Automatic layer management of up to 250 layers. Users can assign attributes, such as color, plotter pen style and line width, to individual layers before the actual design begins, eliminating tedious setup.

In addition to the architecture-specific features, VersaCAD/Architect provides associative dimensioning, which updates all dimensions affected by changes made to another.

Other features include two architectural symbol libraries; global symbol replacement; the ability to display two units of measurement, such as English and metric; and the ability to insert text in a variety of shapes that have meaning in architectural blueprints.

Versacad Corp. is at 2124 Main St., Huntington Beach, Calif. 92648; (714) 960-7720. □

FONT-LOOSE
& fancy-free
Bauhaus Heavy ITC Kabel Ultra Futura Extra Black
chen Revue Franklin Gothic Condensed Bodoni Poster
as Medium MACHINE Folio Extra Bold ITC Kabel Bold
Bookman Light Linotype Centennial Belwe Bold
elsior Galliard Roman Melior Italic Serifa 75 Black
iat Eurostile Oblique Stone Sans Dom Casual Fraktur
Kabel Helvetica Condensed Bauhaus Eras Light Freestyle
enir Futura Light
Memphis Univers 47 Serifa Sonata
of Chancery University Optima
EIGNOT LIGHT
What good are all those Fonts and Desk Accessories if using them is a hassle? Suitcase II sets you free!
Suitcase II is the award-winning software that gives you unlimited access to all your fonts and desk accessories, all the time. Without having to use Font/DA Mover to install and deinstall them. Without cluttering up your system file. Without anything to stand between you and your creativity.
Imagine being able to view an unlimited number of fonts in their own typefaces at any moment, picking and choosing among them without breaking stride. Imagine never having to search through a cluttered System File to find what you need.
Imagine never having to deal with font ID conflicts, never having to restart your system to install a Desk Accessory you need. Imagine spending your time creating instead of juggling fonts and DAs.
Imagine Suitcase II on your Macintosh...
Suitcase II
SUITCASE II
FIFTH GENERATION SYSTEMS
Macintosh is a trademark of Apple Computer, Inc.
10049 N. Reiger Road Baton Rouge, LA 70809 (504) 291-7221
the liberating software

Usually, the technology available to computer users just plods along—with competing products repeating one another's so-called improvements.

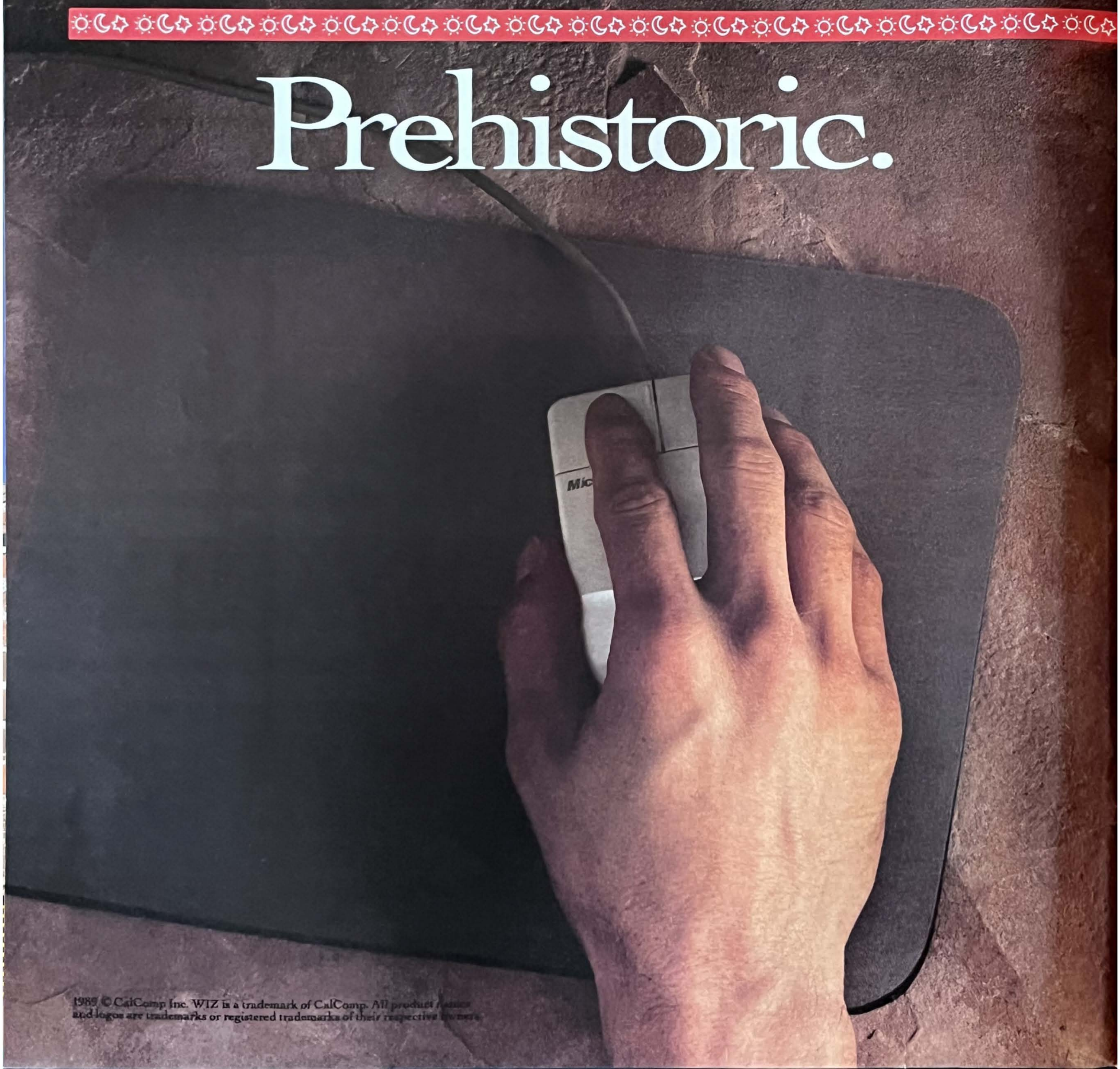
But once in a blue moon there's a great leap of innovation. Something new appears that's so well thought out, so smart, that the way you work may never be the same again.

WIZ™ by CalComp, for example.

WIZ is an exciting new productivity tool. Combining the easy-to-use features of a mouse with the power of an "intelligent" graphics pad to enhance every pointing, tracing and drawing function you do.

WIZ meets the needs of virtually every Macintosh and PC user—from novice to advanced. Because WIZ gives you the convenience and flexibility of six programmable buttons, a cross-hair pointer and 1000 dpi for pinpoint accuracy, along with

Prehistoric.



1989 © CalComp Inc. WIZ is a trademark of CalComp. All product names and logos are trademarks or registered trademarks of their respective owners.

a user-definable mouse area.

What's more, WIZ unleashes the full power and speed of your software. Optional templates for most major programs eliminate tedious pull-down or bar menus. Because WIZ templates put the commands you use most at your fingertips for instant access. And for the artist in you, WIZ offers an optional pen for drawing.

There's no rolling ball or moving parts. Nothing to clean. And WIZ has a five year warranty backed by CalComp, a world leader in computer graphics for over 30 years.

But the most amazing thing about WIZ is that you get it all for an introductory price under $200.

See WIZ at your local dealer or call 800-CALCOMP.

WIZ by CalComp.

Everything else is just a mouse.

WIZ

Historic.

TransPac brings kanji to U.S. Macs

Word processor ships with Japanese system

By Daniel Farber

San Jose, Calif. — Japanese-speaking Mac users in the United States frustrated by the lack of a kanji-based Mac now can turn to TransPac Software for relief.

TransPac has just released TurboWriter, a $495 bilingual word processor that includes the underlying system needed to support Japanese software.

"The Japanese Mac requires three things: the Japanese version of the Mac system software; KanjiTalk 2.0, a method for inputting characters; and a word processor. We supply all three in a single package," said Ken Krugler, president of the company.

TransPac developed KanjiTalk 2.0 for Apple Japan and has a licensing agreement with Apple that allows it to distribute the Japanese system software with TurboWriter.

TurboWriter supports multiple column layouts; color; full Undo; and standard Mac text styles, including subscript, superscript and strike over. The program comes with a table editor and a file filter for exporting documents to Aldus PageMaker.

TurboWriter also includes TurboJip software, which converts Roman letters into Japanese characters as the user types. It can be used either with a standard QWERTY keyboard or with a katakana keyboard, which places kana symbols over the Roman keys. With TurboJip, users can create documents that mix kanji, hiragana, katakana and romaji characters.

Additionally, TurboJip can be used to place Japanese characters in the Japanese versions of other Mac applications, such as Microsoft Excel, ACIUS Inc.'s 4th Dimension and Claris Corp.'s FileMaker II.

The program supports the Apple NTX-J (Japanese) LaserWriter.

TurboWriter is available from ComputerWare Inc., the San Francisco Bay area retail chain and mail-order distributor, or direct from TransPac.

TransPac Software is at 4340 Stevens Creek Blvd., Suite 203, San Jose, Calif. 95129; (408) 984-8475. □

TransPac Software's TurboWriter includes KanjiTalk 2.0 and the system software needed by the Mac to support Japanese character sets. Documents can include a mixture of sets.

Canyon extends hard drive offer

By Edwin Garcia

Canoga Park, Calif. — Canyon Technology, which entered the Mac market last month with a line of low-priced external hard disks, has extended introductory pricing through February.

The series includes 20-, 40-, 80-, 100- and 200-Mbyte drives. Each is available either in a "zero footprint" under-the-Mac design or in a portable case, which measures 10.5 by 6.5 by 2.25 inches, and comes with a wall-mounted power supply. Prices range from $329 for the 20-Mbyte drive in the portable case to $1,469 for a 200-Mbyte zero-footprint unit.

The 20- and 80-Mbyte models are based on Seagate mechanisms, the 40-Mbyte model uses a Quantum drive and Conner Peripherals supplies the mechanisms for Canyon's 100- and 200-Mbyte models.

All products include a 30-day money-back guarantee and a one-year parts and labor warranty.

The external storage devices are the first of 15 low-priced products Canyon plans for the Macintosh, according to Fred Hof, company president. He said he expects to ship scanners, modems and removable hard drives later this year.

Canyon Technology can be reached at P.O. Box 5247, Canoga Park, Calif. 91307; (818) 716-9476. □

Wheels for Mind to spin no more; academic resource guide due

By Roger Karraker

Boston — Apple has quietly discontinued its 5-year-old higher-education quarterly, Wheels for the Mind. In place of the journal, which was produced for Apple at Boston University, the company is offering academic Mac users a bimonthly newsletter called Syllabus, which is edited in-house at Apple.

Along with Syllabus, Apple will publish the Resource Guide for Macintosh Programs, a comprehensive database-like compilation of Macintosh courseware, labs and projects. The resource guide will be available in print, as a HyperCard stack and perhaps as a searchable on-line data library on AppleLink, the company's worldwide telecommunications system.

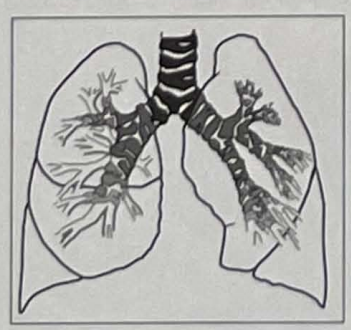
No release date has been set for the resource guide. A preliminary hard-copy version was distributed at the Educom conference in Ann Arbor, Mich., last October, but the final release is being held up while developers of the stack version work to speed its search algorithms, according to an Apple representative. □

TechPool shows medical clip art

By Henry Norr

Cleveland — TechPool Studios Inc. this month announced the LifeART Human Anatomy Collection, the first volume in a new library of professional-quality medical clip art in PostScript format.

The collection includes more than 70 detailed line and halftone illustrations of body parts and systems. The images, shipped in Adobe Illustrator 1.1 format, can be placed in publishing and presentation programs or colorized and customized in many graphics applications.



TechPool Studios' LifeART Human Anatomy Collection includes 70 PostScript illustrations of body parts and systems.

The eight-disk set, due next month, will have a list price of $229 but will be available through June 30 at $149, the company said.

Versions with color and anatomic part names are expected later this quarter. A dental collection and other volumes will follow, according to Paul Veregge, TechPool founder and a physician specializing in emergency medicine. The 3-year-old company also supplies custom graphics to medical schools, hospitals, publishers and businesses.

TechPool Studios Inc. is located at 12940 Cedar Road, Cleveland, Ohio 44118; (216) 932-5200. □

Editorial

Good karma or bad strategy?

Despite Apple's apparent revenue shortfall at the low end of its product line, company executives continue to brush off suggestions that it should rush new low-cost Macs to market.

"You don't do a low-cost version of yesterday's products; it's bad karma," Apple Products President Jean-Louis Gassée was quoted as saying last week in The Wall Street Journal.

Nobody would argue that a quickly modified version of the existing Plus and SE would be preferable to a completely new low-end Mac with a full feature set and an elegant new design. But where is that new design? In light of Apple's recent market decline, talk of karma and design elegance may be a luxury that Apple can ill afford.

Trickle down. Apple has for the past several years been dedicated to the top-down theory: Gain respect, confidence and sales from Fortune 1,000 corporations, and the rest of the business world and status-conscious users will follow.

The extent to which Apple has blossomed into a $5 billion-plus company on the strength of that strategy is a tribute to the vision of CEO John Sculley and his staff.

Unfortunately, that hard-won acceptance in the upper echelons of business has come at the expense of serving the larger market. For the past two years, Apple has focused its new products exclusively at the high end of the personal computer market. Sales of the new models have been healthy. Not surprisingly, however, sales of the Mac Plus, SE and the Apple II are declining.

The reason for the shortfall is not that potential customers are opting for more-powerful Macs. Rather, the slow growth stems from the lack of any compelling low-end Apple machines.

Competing in this segment of the market doesn't mean slugging it out with Commodore and Nintendo for the home computer market. Apple needs low-end Macs to serve its mainstream business, government and education markets.

Even in these professional market segments, computer buyers are cost-conscious. There are millions of potential customers shopping in the $1,000 to $3,000 price range. For Apple to attract new users or those replacing their aging DOS computers, it has to offer a modular color machine within that range.

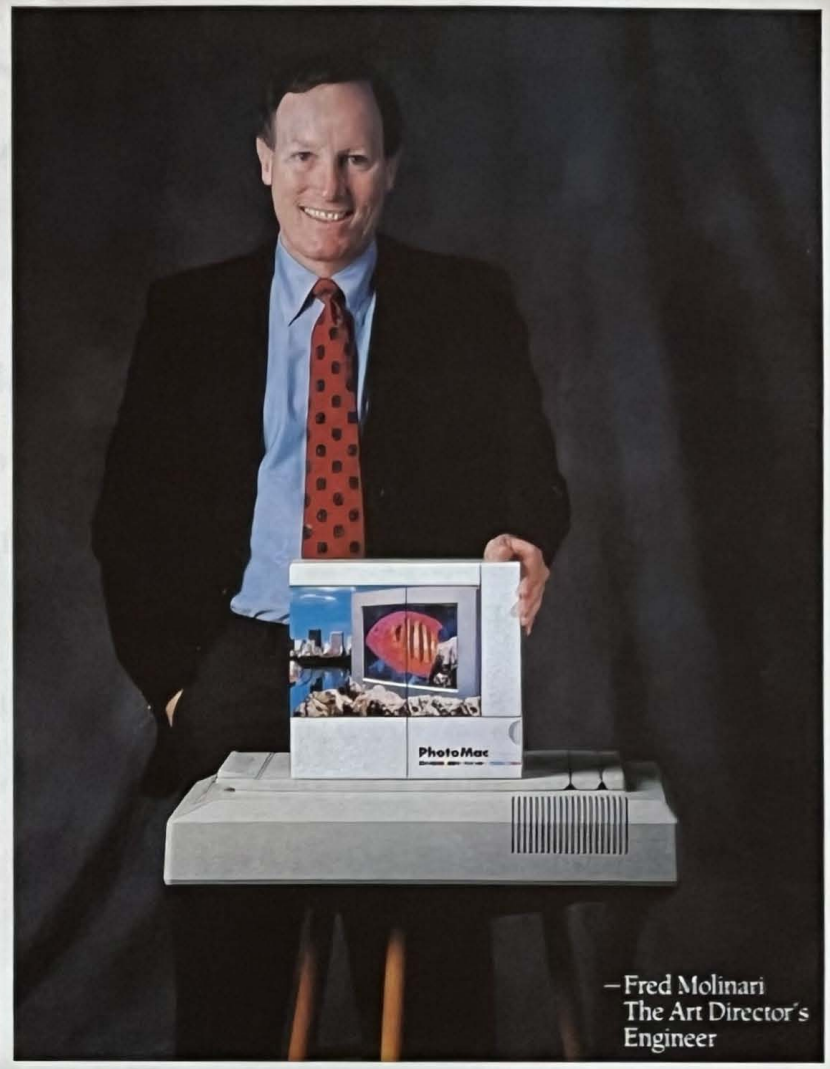
Makers of IBM PCs and compatibles have become aggressive in providing 80286- and 80386-based color machines costing less than $3,000. Regardless of how superior Mac technology may be compared with its competitors, customers who are computerizing schools or entire businesses want and need less-expensive systems.

Strategic mistake? Let's be clear that Apple doesn't have such a system today because it chose not to. Apple spends more than $1 million a day on research and development. Surely it could have produced a low-cost, modular color Macintosh by now if it had placed its R&D priorities on such a machine. It didn't, because it believed a product mix biased toward the high end would maximize profits in the short run.

If that strategy has turned out to be flawed, the question is what Apple should do about it now. The signals from Apple suggest that it intends to tough out its original decision.

In sticking to its timetable, Apple stands to lose the opportunity to seize an emerging market of low-end business users, and it may even lose some of its existing market share.

That's a high price to pay for good karma. □



– Fred Molinari
The Art Director's
Engineer

The color scanner.

The useful color scanner.

Take a color image, pop it into your color scanner, and presto, the image appears right on your Mac® II screen.

Incredible isn't it?

Not really. Especially when you consider how limited the scanned image is. Enter PhotoMac.® The image editing software that transforms raw scanned images into useful, unique, and exciting images guaranteed to turn heads.

You'll be amazed at how easy and intuitive PhotoMac is to use. PhotoMac lets you change colors, duplicate and combine images. Paint, retouch, and airbrush with virtually unlimited colors.

So if you're using a color scanner, film recorder, video input, or color printer, it's time you used PhotoMac to edit.

Then see how useful your images can be.

Scanner manufacturers and developers interested in PhotoMac can call (508) 481-3700, ext. 618 for more information.

For a dealer near you, call today (508) 485-3322.

For an actual PhotoMac color proof, call (800) 221-6071.

PhotoMac is distributed by Ingram Micro D, (714) 540-4781; and by Macamerica, (408) 434-0433.

International Sales Offices: Denmark (45)(2)274511; England (44)(1)200 8282; France (33)(1)46 092750; Germany (49)7142/54025; Israel (972)52-545685; Italy (39)(332)23.63.36; Netherlands (31)(70)99-6360; Sweden (46)(8)98.77.00; Switzerland (41)(56)20.13.55. PhotoMac is a registered trademark of Avalon Development Group. All other trademarks and registered trademarks are the property of their respective holders.

PhotoMac®

Let's say you have a sud

The Colormate™ PS simulates 736 PANTONE colors.

Until now, getting truly high-quality color images of your work meant just one thing. Photographing your design, sending out for development, and then converting your prints to color copies or transparencies.

Enter the Colormate PS printer from NEC.

Its PANTONE®* certification, powerful microprocessor, and advanced thermal transfer technology let you create vivid, high-resolution color output in-house. In minutes.

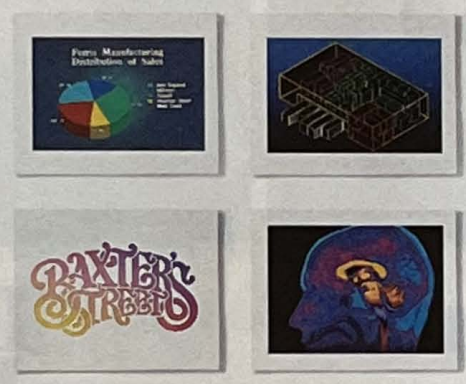
And with 8 MB of memory and an Adobe® PostScript® interpreter, the Colormate PS simplifies complex tasks. Like handling detailed artwork and photography. Printing transparencies. And using software like Adobe Illustrator 88,™ Aldus PageMaker® and FreeHand,™ and Harvard Graphics.™

But perhaps its most beautiful feature is that it lets you change your color output almost as quickly as you (or your client) change your mind.

Hypothetical situation: You suddenly realize key parts of your model need to be more clearly defined. And your presentation is in an hour.

If you have the Colormate PS, you have it made. You can change a color and minutes later you have four copies and a transparency.

Sound easy? Well, it is.



Whether you do business graphics, CAD/CAM, or graphic design, all your ideas will look brilliant.

The old way: Days and weeks.

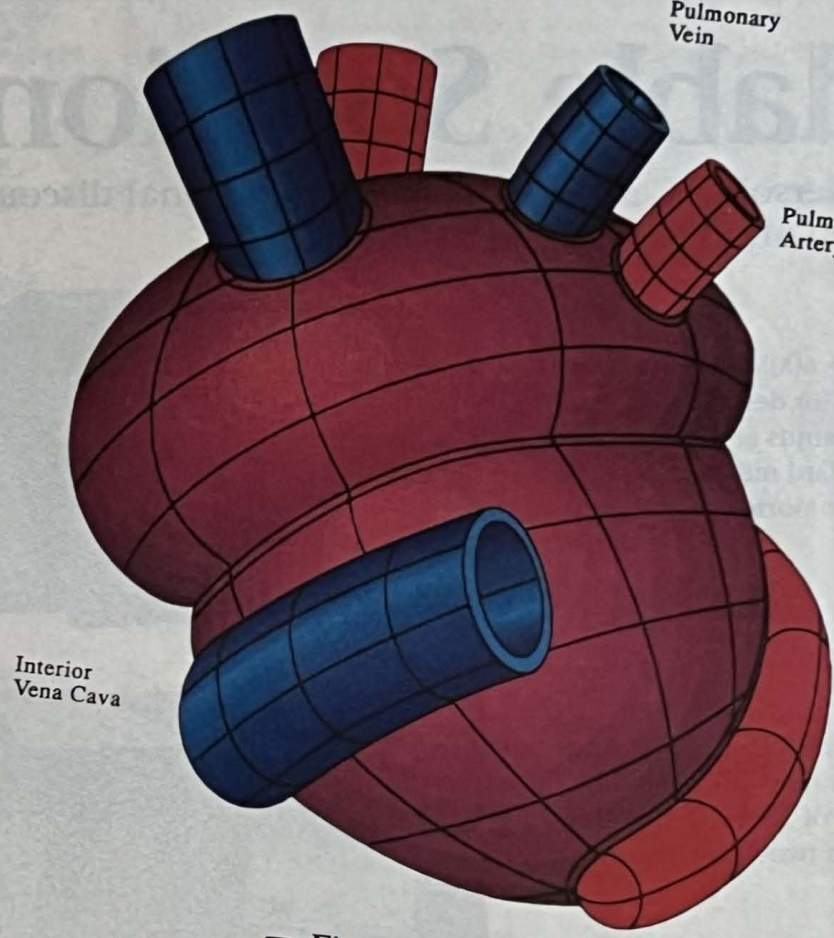
The new way: Minutes and ours.

C&C Computers and Communications

NEC Technologies, Inc., 1414 Massachusetts Ave., Boxborough, MA 01719. 1-800-NEC-INFO. In Canada, 1-800-343-4418.
*Pantone, Inc.'s check-standard trademark for color reproduction and color reproduction materials.

den change of heart.

— Figure 36 —



— Figure 36 —

For lots of reasons.

Like a 16-character status display that provides menu-driven messages. No DIP switches. An autosense mechanism that adjusts the printer to the ribbon. And a compact design that makes it easy to fit in your office.

Specifications:
Resolution: 300 x 300 dpi
Output Media: Cut-sheet, paper or transparency
Memory: 8 MB RAM
Page Description Language: Adobe PostScript
Dim.: 17″W x 18″D x 9½″H
Print Method: Thermal transfer
Features: Pantone certification, 35 resident Adobe fonts

Naturally, should you decide to buy a Colormate PS printer, you'll find that it's built with the same superior quality that goes into all NEC products.

After all, some things never change.

NEC

WE'RE MAKING THINGS BETTER FOR YOU.

© Copyright 1990 NEC Technologies, Inc. Colormate is a trademark of NEC Corp. Adobe and PostScript are registered trademarks and Illustrator 88 is a trademark of Adobe Systems, Inc. Harvard Graphics is a trademark of Software Publishing, Inc. PageMaker is a registered trademark and FreeHand is a trademark of Aldus Corporation.

MediaMap puts PR guide on Mac databases

By Nathalie Welch

Bedford, Mass. — MediaMap, a research service for computer industry public relations practitioners, has joined with The Right Brain Inc. and Claris Corp. to adapt their database products for use with its directory of 2,000 media contacts, industry analysts, research firms, users groups and newsletters.

The new packages are designed to work with a new $300 electronic update program for MediaMap's annual Computer Industry Service. The basic service, priced at $1,695, includes a quarterly 750-page directory, a quarterly Update Memo that identifies changes in the larger guide, a monthly newsletter, a biannual Editorial Calendar Planner and free telephone support. The optional update program provides ASCII-format data on disk every quarter.

▶ MediaMap/NewsTrack, a version of The Right Brain's NewsTrack, a relational database for public relations management, includes special features for use with MediaMap data. Developed with Odesta Corp.'s Double Helix, NewsTrack lets users perform mail merges and generate mailing labels, media lists, phone books and contact logs. Special fields added to the MediaMap version make it easy to incorporate and update data provided by the research service, the companies said.

Distributed by MediaMap, MediaMap/NewsTrack is priced at $495, the same as The Right Brain's standard version of the product. An IBM PC version is due out by the end of the month, and multi-user versions are available.

▶ MediaMap on Disk is a FileMaker II template that allows users to incorporate data from the $300 quarterly electronic version of MediaMap into the popular Claris flat-file management program. The template is distributed free on the MediaMap update disks; FileMaker II, which is priced at $299, must be purchased separately.

MediaMap is located at 130 The Great Road, Bedford, Mass. 01730; (617) 275-5560.

The Right Brain Inc. is located at 970 Ford Centre, 420 N. Fifth St., Minneapolis, Minn. 55401; (612) 334-5620.

Claris Corp. is located at 5201 Patrick Henry Drive, Box 58168, Santa Clara, Calif. 95052-8168; (408) 987-7000. □

Affordable Solutions

DPI will not be undersold. Call now, to get an additional discount on all drives shown in this ad.

DPI Optical

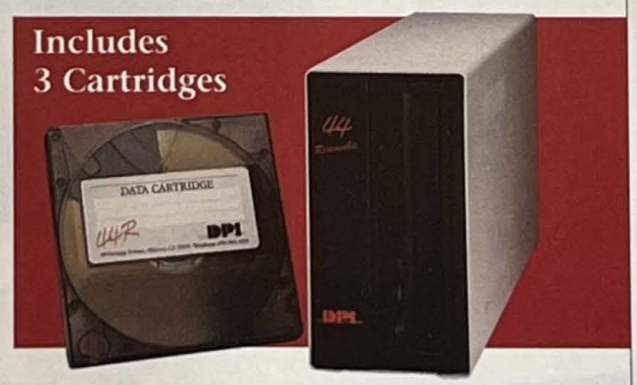
DPI's new read/write/erasable 600MB Optical drive provides you needed storage for desktop publishing, multimedia, graphics, sounds and backup requirements. Uses ISO standard media to protect your investment today and tomorrow.

Optical Disk Drive (with 1 cartridge) $3795.00

DPI 44R

DPI has been shipping the 44MB Removable since its release by Syquest. We are now bringing it to you with a faster access time of 20ms. DPI's 44MB Removable also comes with a two-year warranty on both parts and labor.

44MB Removable Cartridge Drive
(with 3 cartridges) $899.00
(with 1 cartridge) $739.00



DPI 1.4

DPI's new 1.44 megabyte Floppy disk drive supports Apple's new 1.4 megabyte standard floppy disk drive, IBM™ 1.4 and 720K floppies. SCSI interface makes it compatible to all Macs without the need for a rom upgrade.

3 1/2" Floppy Disk Drive..... $339.00

DPI 1.2/360

5 1/4" SCSI Floppy Drive allows Mac™ to read and write1.2MB or 360K DOS Floppy Diskettes.

5 1/4" MS/DOS Compatible $399.00

*All prices and specifications are subject to change without notice.

BMUG (Berkeley Macintosh User Group) Newsletters Choice Product section says... "It's fast, reliable and trouble-free; the best of all Syquest removable drives available". (Winter/Spring 89) DPI has been listed in this category for the last three bi-yearly issues.

We offer these four drives as well as our hard drive line 20MB to 600MB with IBM, Amiga, and Atari compatible software.

40 Corning Ave, Milpitas, CA 95035
(408) 945-1850 • FAX (408) 945-8148

800-825-1850
DPI

Relational database tracks PR info, tasks

Desktop Innovations Inc. is now offering public relations practitioners a relational database application designed specifically for their information tracking and task management needs.

PR/WORKS, priced at $1,295, combines three interdependent sections:

▶ A database section for information about clients, editors, writers and media outlets, with room for notes of any length in many of the fields and a Calendar Catch feature for reviewing editorial calendars.

▶ A call management and task management module with auto dialing, automatic setup of letters, logging of completed tasks and a to-do list with automatic carry-over of uncompleted items.

▶ A time tracking section that generates editable logs of project or account activity.

Built originally with Blyth Software Inc.'s Omnis 3.3 Plus, the $1,295 program is now being converted to Omnis 5, according to Desktop Innovations founder Gary Berlind. "A Windows version is due by summer," he said.

"We had been using an elaborate custom-designed database using Reflex (from Borland International of Scotts Valley, Calif.) as an engine for years," said Ed Niehaus of Niehaus Public Relations in San Francisco. "The database had expanded to the point that major renovations had to be done. I didn't think I could find anything better — until PR/WORKS came along. I am very impressed with it."

PR/WORKS, which requires a hardware copy-protection device attached to the Apple Desktop Bus, runs on the Mac SE and Mac II lines.

Desktop Innovations Inc. is located at 742 Gilman St., Berkeley, Calif. 94710; (415) 525-9688. — *By Nathalie Welch*

Get a FREE Subscription to MacWEEK

Applicants who qualify will receive a complimentary subscription to MacWEEK. All questions must be answered, including those which request specific numbers, to be eligible for qualification. Incomplete forms cannot be processed. The publisher reserves the right to limit the number of free subscriptions. Remember: sign and date this form before returning.

● **Please start/continue my FREE subscription to MacWEEK.**
☐ 01. Yes ☐ 02. No AACA

1 Your company's primary business activity AT THIS location (check one only):

Non-Computer Related
- ☐ 01. Aerospace
- ☐ 02. Architecture, Engineering
- ☐ 03. Research and Development
- ☐ 04. Graphic Arts
- ☐ 05. Communications: Publishing, Advertising, Public Relations, Promotion
- ☐ 06. Government: Federal
- ☐ 07. Government: Non-Federal
- ☐ 08. Manufacturing
- ☐ 09. Education
- ☐ 10. Finance: Banking, Accounting, Insurance, Real Estate
- ☐ 11. Health, Medical, Legal
- ☐ 12. Retail, Wholesale, Distribution
- ☐ 13. Agriculture, Mining, Construction, Oil, Transportation, Utilities

Computer Related
- ☐ 20. VAR/VAD
- ☐ 21. Retailer/Distributor
- ☐ 22. Systems House/Data Processing Service
- ☐ 23. Manufacturer (Computers, Software, Peripherals)
- ☐ 24. Computer Consultant
- ☐ 99. Other Businesses & Services (please specify) _____

2 Your Professional Title (check one only):
- ☐ A. Chairman/President/Owner/Partner
- ☐ B. VP/Controller/Treasurer
- ☐ C. General Manager/Director
- ☐ D. Micro Manager/Specialist/Coordinator
- ☐ E. Project Manager
- ☐ F. Art Director/Graphic Designer/Artist/Illustrator
- ☐ G. Manager/Supervisor (not listed above)
- ☐ H. Architect/Engineer
- ☐ I. Systems Analyst/Programmer
- ☐ J. Consultant/Advisor
- ☐ K. Scientist
- ☐ L. Educator
- ☐ M. Editor/Writer
- ☐ N. Professional (Doctor, Lawyer, etc.)
- ☐ O. Accountant
- ☐ P. Representative
- ☐ Z. Other (please specify) _____

3 Your department/function at this location (check one only):
- ☐ A. Engineering/Systems Engineering
- ☐ B. Research & Development
- ☐ C. Communications/Publishing/Public Relations
- ☐ D. Art/Creative Design
- ☐ E. MIS/DP/Information Systems
- ☐ F. Manufacturing/Operations/Production
- ☐ G. Sales/Marketing
- ☐ H. Administration/Management/Personnel
- ☐ I. Accounting/Finance
- ☐ J. Education/Training
- ☐ K. Science
- ☐ L. Consulting
- ☐ Z. Other (please specify) _____

4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this location?
☐ Yes ☐ No
(Write in accurate quantity for all that apply)

		Currently Owned (Quantity)	Plan to Purchase (0-12 Months) (Quantity)
Macintosh IIcx/Macintosh IIx	1		
Macintosh IIci	2		
Macintosh II	3		
Macintosh SE/30	4		
Macintosh SE	5		
Macintosh Portable	6		
Macintosh Plus	7		
Macintosh (Other)	8		
IBM/Compatible Micro	9		
Workstation (e.g. Apollo, Sun)	10		

5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year (answer one only):
- ☐ A. Retailer: sold per year _____ (specify quantity)
- ☐ B. Reseller: resold per year _____ (specify quantity)
- ☐ C. Consultant: purchased by your clients through your firm's recommendations per year _____ (specify quantity)
- ☐ D. Not Applicable

Required: Company name and company street address must be written below or applications cannot be processed. *Please print.*

First Name | Last Name

Title | Business Telephone

Company Name

Division | MS

Street Address (Where you work) P.O. boxes not accepted on this line

City | State | Zip

Optional: Enter home address below ONLY IF YOUR COMPANY WILL NOT ACCEPT DELIVERY. (Company information is still required.)

Post Office Box or Street Address

City | State | Zip

6 Please check the Mainframe(s) or Minicomputer(s) at your location (check all that apply):
☐ 01. VAX ☐ 02. IBM ☐ 03. Other ☐ 09. None

7 Do you purchase, recommend, specify or approve any of the Macintosh/Compatible products listed below?
☐ Yes (If yes, please check all that apply) ☐ No

Computers
- ☐ 01. Macintoshes
- ☐ 02. Workstations
- ☐ 03. Minis, Mainframes

Connectivity
- ☐ 10. Local Area Networks
- ☐ 11. Modems
- ☐ 12. Micro/Mini/Mainframe Links
- ☐ 13. Communications Software

Peripheral Equipment
- ☐ 20. Laser Printers
- ☐ 21. Color Printers
- ☐ 22. Color Monitors
- ☐ 23. Hard Disks
- ☐ 24. Backup Systems
- ☐ 25. Plotter, Charting Devices
- ☐ 26. Scanners

Add-in Boards
- ☐ 40. Memory Boards
- ☐ 41. Graphic Boards
- ☐ 42. MS DOS Boards
- ☐ 43. Ethernet Boards

Software
- ☐ 50. CAD/CAM
- ☐ 51. Graphics
- ☐ 52. Desktop Publishing
- ☐ 53. Desktop Presentation
- ☐ 54. Database
- ☐ 55. Programming
- ☐ 56. Accounting, Payroll
- ☐ 57. Spreadsheets
- ☐ 58. Music
- ☐ 59. Project Management
- ☐ 60. Word Processing
- ☐ 61. Utilities

8 If you help purchase, specify, recommend or approve Macintosh Computers, software or peripherals, for how many MACs do you have this involvement over the course of one year?
- ☐ 01. 500 +
- ☐ 02. 100-499
- ☐ 03. 50-99
- ☐ 04. 20-49
- ☐ 05. 10-19
- ☐ 06. 4-9
- ☐ 07. 1-3
- ☐ 09. None

9 Please indicate the communications capabilities that the Macintoshes at your location have (check all that apply):
- ☐ 01. Local Area Network
- ☐ 02. Communicate with corporate workstations, mini or mainframe computers
- ☐ 03. Communicate with remote mini or mainframe computers
- ☐ 04. Communicate via modem
- ☐ 05. Voice/Data
- ☐ 09. Other (please specify) _____

10 Indicate how many employees there are in your entire company (check one only):
☐ 01. 1000 or more ☐ 02. 100-999 ☐ 03. Under 100

11 Indicate an additional individual at this location who might qualify for a FREE subscription to MacWEEK:

Name _____

Title _____ Dept _____

● Your Signature _____

Title _____ Date ____/____/____

PLEASE BE SURE THAT ALL QUESTIONS ARE ANSWERED.

FOLD HERE FOR MAILING DO NOT STAPLE—TAPE HERE

Place stamp here. Post Office will not deliver without postage.

MacWEEK

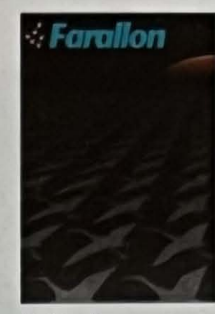
P.O. Box 5806
Cherry Hill, N.J. 08034-9641

FOLD HERE FOR MAILING DO NOT STAPLE—TAPE HERE

GA

MacWEEK'S GRAPHIC ARTS REPORT

30 January 1990



Multimedia: Will it get your message across?
See Page 22

Attracting attention at a trade show.
See Page 24

Solving problems on the factory floor.
See Page 25

The ABCs of Mac graphics file formats

By Connie Guglielmo

San Francisco — To communicate in the Macintosh graphics community, graphic artists must speak a language of acronyms. A variety of Mac graphics file formats — some standard, some proposed — now exist.

▶ PICT (Picture Format), was developed by Apple in 1984 as the standard format for storing and exchanging graphics files. The original release only supported black-and-white images; PICT2 arrived in 1987, with support for eight-bit color and gray scale. Users running Apple's 32-bit color QuickDraw can now generate 24-bit color PICT images.

▶ TIFF (Tag Image File Format), a platform-independent format for storing and exchanging scanned images, was developed in 1986 by Aldus Corp. with the help of Microsoft Corp. and scanner manufacturers Datacopy Corp., DEST, Microtek Lab Inc., New Image Technology Inc. and Hewlett-Packard Co. to address the limitations of the original PICT format.

"TIFF was intended to be portable to other platforms; PICT was not," said Steve Carlsen of Aldus, the software engineer who helped define the TIFF specification. "TIFF was intended to be revisable to suit the needs of different scanner manufacturers and to be extensible so it could be extended to support color."

KEVIN BERGER

TIFF also was designed to make it easier to edit images. It provides random access to image data so that users can read into memory only the part of an image they want to edit, Carlsen added.

The current version — TIFF 5.0, released in 1988 — includes methods for compressing gray-scale and color images so they occupy one-third less disk space. A new version is expected in the second quarter of this year.

Some scanner manufacturers and developers support RIFF (Raster Image File Format), an extension of TIFF devised by graphics developer Letraset of Paramus, N.J.

▶ EPS (Encapsulated PostScript) was designed to provide a way to display PostScript images. Most graphics applications that support the PostScript page-description language actually use Apple's QuickDraw imaging language to display the image on screen. When a PostScript file is moved out of the application in which it was created, it carries the information needed by a second program to print the image but not the QuickDraw information necessary for the second program to redraw the image on screen. EPS stores a PostScript description along with a bit-mapped equivalent of the image that can be displayed on the screen.

See Acronyms, next page

'WhaleSong' pushes color separation technology

By Janice Maloney

Honolulu — In 1986 the creators of the award-winning "WhaleSong" pushed desktop publishing technology to its limits, producing the first coffeetable book designed on a Macintosh. In 1989, they did it again — this time pioneering in the field of desktop color separation technology.

According to Robert Goodman, who co-authored the book with MacKinnon Simpson, " 'WhaleSong' was reborn to see and to demonstrate in real time how this technology is working." The book examines the historical relationship of humans and whales.

Using three Mac IIs each with 8 Mbytes of RAM, SiCLONE 3033 accelerator cards, Radius two-page color display monitors with QuickColor acceleration cards, and PLI Infinity drives as their basic tools, the group re-created the book in four months.

It was not without problems, however. Goodman and Simpson's work was stymied from the start when they discovered that the disks storing the Aldus PageMaker 1.1 documents from the original edition of "WhaleSong" were destroyed. To recover the text, the team used Textpert 3.01 (optical character recognition software) with Hewlett-Packard Co.'s ScanJet Plus.

New material was generated in Microsoft Word 4.0 in the office here and on a Colby WalkMac, which was then downloaded via Farallon's Timbuktu/Remote modem. Edited text as well as artwork created in Aldus Free-

See 'WhaleSong,' next page

Taken from the title page of "WhaleSong," the image on the left is a Sharp JX-450 scan, which Joel Lovingfoss, a color imaging specialist and a member of the "WhaleSong" development team, uses as a model to put Adobe Photoshop through its paces.

Mac-made animation goes Hollywood

By Steve Hannaford

Los Angeles — Using a high-speed, custom-built analog film recorder and proprietary production routines, Allied Visual Artists of Los Angeles has completed the first professional, feature-length animated film made with a microcomputer.

Each frame of the 22.5-minute cartoon, "The Good Samaritan," was created on a Mac (based on scanned-in hand drawings) and colorized using a prerelease version of Letraset's ColorStudio. Other software used included LetraStudio, also from Letraset; Linker Systems' The Animation Stand; Swivel 3D from Paracomp Inc.; MacroMind Inc.'s Director; and StrataVISION 3d from Strata Inc.

The film, the first in a series of animated children's programs by AVA, will be released for the educational, cable and home videotape markets by Omni Productions; an Encinitas, Calif.-based film and production company. According to Greg Maurice, AVA president, part of the contract with Omni included matching or surpassing the quality of the pilot film, which was traditionally animated. Maurice said that the computer-generated nature of the cartoon "should be completely transparent to viewers," looking very much like traditional handmade animation. "My hope is that even the professionals won't be able to tell the difference."

The producer of the feature, Tom Solari of Solari Communications, said he shares Maurice's enthusiasm about the quality of the feature. In fact, Solari said he had to tone down AVA's production to make it more in keeping with the Korean-made pilot. "It turns out that Greg's capabilities far exceed our pilot. I had to hold him back a little to be somewhat consistent with the quality of the earlier show," Solari said. "It was exciting to be able, here in Hollywood, to find the quality at the budget we wanted."

The film is the fruit of a long period of research and system integration, during which Maurice and Kurt Wiley, AVA's director of technology, developed a system capable of creating detailed, high-resolution animation from an 8-Mbyte Mac II and an 8-Mbyte IIx with RasterOps 224 and 104 color boards. According to Wiley, AVA can capture a frame in less than four seconds with the company's analog film recorder, which takes the frame images from a Mac II screen, separates them into RGB (red, green, blue) components and places them on film. With

See Animation, next page

The image at right of a whale's fluke, taken by researcher Deborah A. Glockner-Ferrari, was scanned on a Barneyscan from a 35mm duplication transparency. It required 5.7 Mbytes of disk space as an RGB file.

COPYRIGHT 1990 DEBORAH A. GLOCKNER-FERRARI

'WhaleSong'

From previous page

Hand and Adobe Illustrator 88 were placed in PageMaker 3.0.2 Color Extension files and output as black-and-white comps on a QMS 810. Color comps were proofed from a QMS ColorScript 100. Final output was done on Linotronic's L300 with a RIP 3.

For Goodman and Simpson, this was not enough. They decided to "reality test" those products that claim the ability to scan and separate color images using Macs. They chose the Barneyscan V3 to scan 35mm slides and used a Sharp JX-450 for flat art. It was using an alpha version of Adobe's Photoshop, however, that made high-end color production on the Mac a reality, according to Goodman. "It was wonderful," he said. "Photoshop is a seminal program that can change the way we think about and execute our work. Like HyperCard, the number of possible combinations are unlimited."

After doing color separations with Photoshop on the L300, the team matched colors on DuPont's Cromacheck system.

"Creating a Macintosh Classic," a 32-page booklet filled with images and backgrounder text on "WhaleSong," accompanies the picture book. "We wanted to tell the story behind the story," Goodman said.

"Creating a Macintosh Classic" is more than an informational piece, though. It is a testimonial to the team's growing mastery over the technology. Created less than 60 days after the book, it contains several images from the book, rescanned and manipulated with improved quality.

"When Bob started out, he was a real neophyte," said Steve Guttman, product marketing manager for Photoshop at Adobe Systems Inc. of Mountain View, Calif. "He knew almost nothing about color separations on the desktop. We [at Adobe] have wondered, 'Is the technology here now?' But when we saw Bob's work, we knew it was a reality."

The saga of "WhaleSong" is not over. Before Christmas 1990, the group plans to release an expanded version of the 32-page booklet. After that, Goodman said he wants to create an interactive HyperCard-driven laser disc version of "WhaleSong."

"WhaleSong II" will retail for $45. Advance purchasers will pay only $24.50 plus $4 postage and handling. A percentage of the gross proceeds of every sale will be donated for marine mammal research.

The WhaleSong Fund can be reached at (808) 595-3118 or (800) 942-5389. □

Animation

From prevous page

the company's proprietary production sequence, this allows AVA to combine high quality with rapid throughput, he said.

Maurice said the AVA system solves the problem of lack of cohesion, which occurs in animation when special effects are not realized consistently on each frame. "The hand is fallible, but the Mac can repeat an action again and again and again," he explained.

Increased production speed is another advantage of the AVA system, Maurice said. He estimated that, using traditional methods, he would need a crew of 250 to complete the job in two months. Instead, he managed to finish the animation in three months with 22 people.

"We are now at the right level of quality," Wiley said. "From here, we can continue to increase the production speed."

"The Good Samaritan" is only the beginning, Maurice said. "We have been talking to a number of innovative companies, including West Olive Inc. (a division of Sullivan-Bluth, co-producer of 'An American Tail')," he said.

Allied Visual Artists can be reached at (213) 464-4516. □

Allied Visual Artists produced this image for Omni Productions to advertise "Adam and Eve," an upcoming animation for the "Adventures in Character Building" series.

Acronyms

From previous page

▶ PICS, a Mac-specific format for exchanging animation sequences, was developed in June 1988 by MacroMind Inc., Visual Information Development Inc., Silicon Beach Software Inc. and Paracomp Inc. "Basically, PICS takes all the individual PICTs that make up each frame of the animation and combines them into one file," said Eric Popejoy, a Visual Information engineer who helped develop the format.

For multimedia developers who want to output Macintosh-generated presentations to videotape, PICS can automate the process somewhat. They can store a sequence of PICTs as a PICS file and let the hardware and software controllers used to output to video batch-process the sequence, Popejoy said.

Additionally, Apple is investigating ways of handling multimedia presentations. The ADF (Apple Document Framework) would give developers a framework for files that contain more than one type of data.

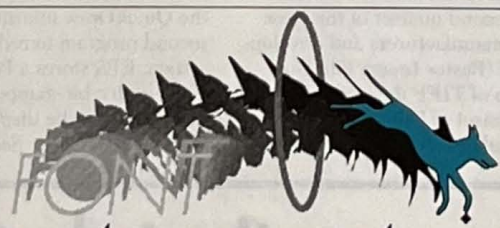
One of the most significant attributes of ADF, originally called MIFF (Media Interchange File Format), will be "linking," a way to have one file that points to anchors within another file. When developing a multimedia presentation, you can have a file containing a script that is linked to separate sounds, graphics or text files. Not only can files can be edited independently, they can be reused in other presentations.

▶ 3DGF (3-D Geometry File) is a platform-independent format for exchanging 3-D geometry data among applications, according to MacroMind's Julian E. Gómez, principal architect of the specification.

There also are two well-known formats generated by most CAD programs that allow users to exchange files across hardware platforms. DXF (Drawing Interchange Format), developed by Autodesk Inc. for its AutoCAD program, is now supported by Mac graphics programs. IGES (Initial Graphics Exchange Specification) is an industry-standard specification defined by the American National Standards Institute. □

Now you *can* teach an old font new tricks.

With Metamorphosis.



These are standard PostScript outlines - converted by Metamorphosis from an assortment of commercial fonts. Recognize any of your favorites?
Art of Type

EXPAND your HORIZONS
Dancing of the TREES
Use your favorite PostScript drawing programs to create designs and logos from type outlines.

You can modify any PostScript typeface by converting it to outlines with Metamorphosis - like these variations on ITC Garamond®.

SMALL CAPS
x-height
Condensed
Gray Scale

The Altsys Family of quality PostScript products for Creative Types.
Metamorphosis $295.00
Fontographer $495.00
The Art Importer $179.00

Metamorphosis™ provides a solution for one of the major frustrations with existing PostScript® type: the inability to access the outlines. With Metamorphosis, you can now manipulate type outlines in your favorite drawing programs and really get the most out of using your fonts!

Metamorphosis is a unique utility for converting your PostScript fonts into editable outline formats. The outlines that Metamorphosis produces are identical to the outlines of your original font.

By using any Adobe® PostScript printer, Metamorphosis converts your fonts into editable outlines for use in Aldus® FreeHand™, Adobe Illustrator®, or Brøderbund® TypeStyler™. You can also use them in Fontographer® to create custom type. And those fonts can be used in any Macintosh application.

With all that you have invested in PostScript and PostScript fonts, isn't it time you tried some new tricks with Metamorphosis?

ALTSYS
Altsys Corporation
720 Avenue F, #109
Plano, TX 75074
(214) 424-4888

Why this publication and more than 1,300 others let us go over their books once a year.

Some publications, we're sorry to say, keep their readers undercover. They steadfastly refuse to let BPA (Business Publications Audit of Circulation, Inc.) or any other independent, not-for-profit organization audit their circulation records.

On the other hand, over 1,300 publications (like this one) belong to BPA. Once a year, BPA auditors examine and verify the accuracy of our circulation records.

The audit makes sure you are who we say you are. The information helps advertisers to determine if they are saying the right thing to the right people in the right place.

It also helps somebody else important: you. Because the more a publication and its advertisers know about you, the better they can provide you with articles and advertisements that meet your information needs.

BPA. For readers it stands for meaningful information. For advertisers it stands for meaningful readers.

Business Publications Audit of Circulation, Inc.
360 Park Ave. So.
New York, NY 10010

BPA

THE BEST 45MB REMOVABLE ON THE MARKET

IS ALSO YOUR BEST VALUE IN A HARD DRIVE.

DataPak – voted by you and industry experts as the hands down winner for the best new storage system for the Macintosh. With today's large applications and massive data files you need a system that grows with you, and megabyte for megabyte DataPak is your best value.

◆ **Low-Cost Expandability**
45Megabytes on a removable cartridge. Just pop in another cartridge whenever you need more storage.

◆ **High Performance**
The DataPak is actually faster than many fixed drives with its 25ms access time and 1:1 interleave.

◆ **Portability and Security**
PadLok software provides password protection and volume partitioning. And because DataPak cartridges are removable you can take them with you, or lock them up for ultimate security.

◆ **Easy Backups**
Our KopyKat software makes the DataPak ideal for backing up all your files.

◆ **Selection**
Choose a DataPak, DataPak II or the new DataPak IIcx to match your system. All are available in single drive, dual drive, or combined with a fixed hard drive.

◆ **Award-Winning Quality**
With all these features it's no wonder that DataPak is *the only product of its kind* to win three awards for outstanding quality and performance.
"Best New Storage System" - *MacUser*
"Best Alternative Storage System" - *MacWorld*
"Best New Hardware Peripheral" - *MacUser Europe*

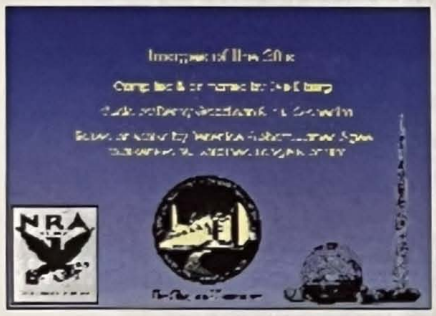
The DataPak family – all the convenience of a floppy, all the performance of a hard drive.
Call **1-800-522-7979** for the dealer nearest you.

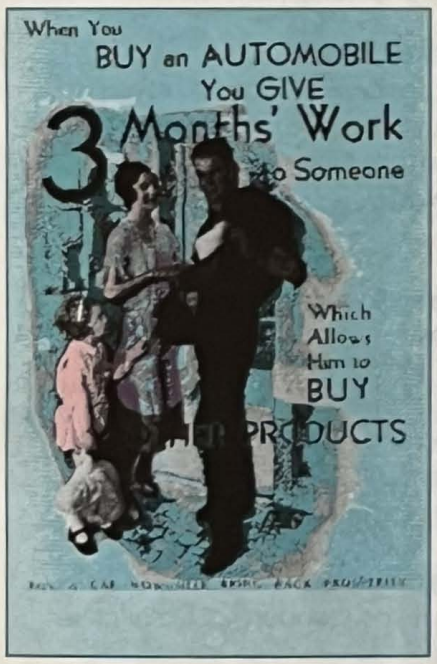
MASS microsystems

DataPak, DataPak II, DataPak IIcx, PadLok, KopyKat and MASS Microsystems are trademarks of MASS Microsystems, Inc. 550 Del Rey Avenue, Sunnyvale, CA 94086
Macintosh is a registered trademark of Apple Computer, Inc.

Making multimedia work for you

People are producing multimedia, from the simple to the sublime. Is it for you? There are important issues to consider. Some technology is still waiting in the wings, yet workable options are available now. The problems and possibilities are discussed here, and two real-life projects are highlighted.





By Steve Rosenthal

OK, you think it's a great idea to have a Macintosh-based multimedia presentation — images, motion and sound — for a trade show or a board-room presentation. What's next?

Really, your first question should be whether the project deserves that treatment, said John deLormier Jr. of Inkman & Associates, a multimedia producer in Novato, Calif. "These projects are so big, they're like making a movie. They take a lot of money."

Most producers say it's difficult to talk price without discussing the specific project. But Jim Edlin, a senior partner in The HyperMedia Group of Emeryville, Calif., said a full-fledged production generally costs in the tens of thousands of dollars. Simpler projects can run less, and a do-it-yourself approach to simple projects can bring costs down to barely more than time and materials. However, Edlin maintained that substantial costs can be justified for high-level corporate presentations or projects with large audiences.

The next decision to make is whether the project will be displayed on the Macintosh or on a VCR or videodisc player.

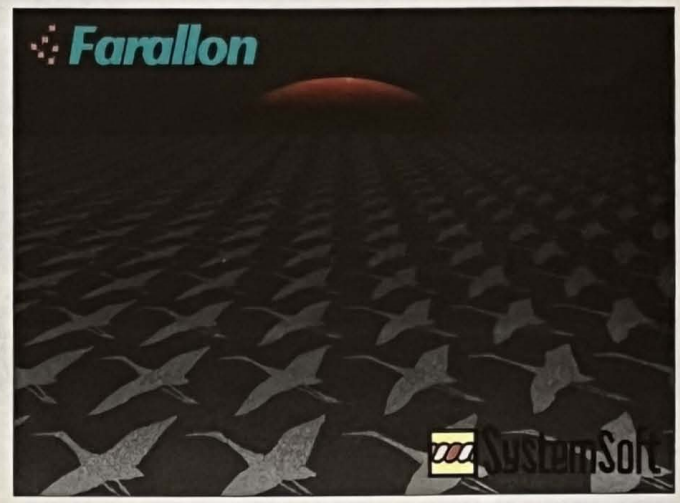
Showing a production on a Mac is more flexible, said Marney Morris, president of Animatrix, a Palo Alto, Calif.-based design and media production firm. It's easier to make changes, and the result can be more interactive. On the other hand, playing a tape can be easier; just about every business conference room has a VCR, but not all have a Mac.

If you're aiming for a high-end board-room production, you can target an 8-Mbyte Mac IIci with a graphics accelerator and a large-screen monitor or a video projector, a system that costs between $12,000 and $30,000. For a demonstration packed with a software package, you may have to work with the Mac common denominator: a small screen, black and white, and no extra hardware. "In the real world, you work with what you have," Morris said.

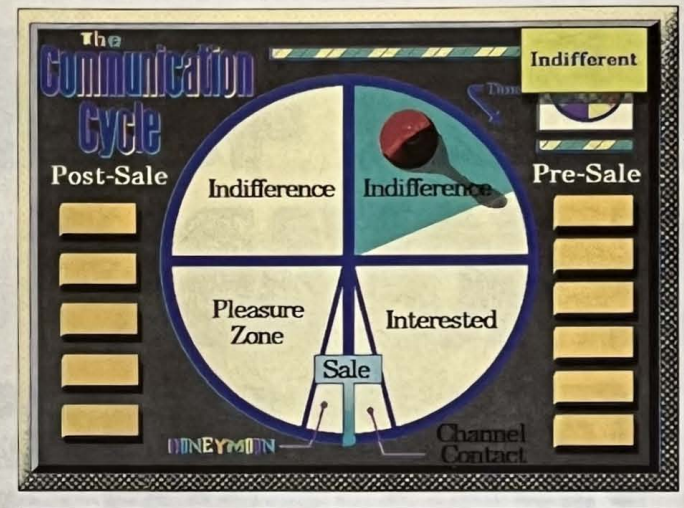
Furthermore, she pointed out, if the result is going to end up on video, all the digital elements created on the Mac will have to be turned into analog signals for output, while an on-the-Mac approach requires digitizing any pre-existing graphics or sounds.

"Ideally," she said, "everything should be digital."

These screens (above and right) were taken from Eve Elberg's "Images of the '30s," featured at the Apple Desktop Media presentation in October 1989. Elberg scanned black-and-white archival material from the 1930s into her Mac IIx using HP's ScanJet. The images were then manipulated in ImageStudio and imported into Studio/8 or PixelPaint, saved as PICT files and placed into MacroMind Director. The soundtrack, Benny Goodman's "I Gotta Right to Sing the Blues," was digitized using Farallon's MacRecorder.



Customers in France won't see this introduction to the Farallon product demonstration, which was designed for the Japanese market. Using Studio/8 and MacroMind Director, Animatrix custom-designs introductions for each country in which the demo will be seen.



John B. deLorimier Jr. used a Mac II to create "The Communication Cycle" for an Apple Products general managers meeting. He used Studio/8 and MacroMind Director to make the final presentation look like part of a game. The sound was created by Susan Adams and brought in via Farallon's MacRecorder.

DisplayNet, a SuperCard-based catalog and ordering system for retailers developed by the HyperMedia Group for Electronic Catalog Corp., uses optimized eight-bit color images to display available products. Options such as size, color and finish can be specified as needed before ordering.

What's 24 bits worth? The trade-off between the practical and the ideal also plays a large role in determining whether color presentations should use eight-bit color rather than Apple's recently introduced 32-bit color QuickDraw (24 bits of color plus eight bits of control). The 32-bit approach requires special video hardware and programs, but it produces more-realistic images.

For some multimedia producers, full 24- and 32-bit color is a necessity even if it takes more hardware support.

"What broke it open for us was [the arrival of] 32-bit color," said Kurt Wiley, technical director of Allied Visual Artists Inc. of Los Angeles. The company, which Wiley described as specializing in "computer-aided classic and 3-D animation," does a lot of work for well-known animators using a combination of hand work and Macs. Because their goal is to produce images on the Mac equal in resolution to what they get on film, they need the full color spectrum afforded by 32-bit color.

Using 32-bit color can mean trading color quality for ease of use and slower production and playback, said Eve Elberg, a Brooklyn, N.Y.-based free-lance multimedia producer who teaches at the Pratt Institute, also in Brooklyn. Programs such as PixelPaint Professional from SuperMac Technology Inc. of Sunnyvale, Calif., are slow in 24-bit color mode, she said, and not all the bugs are out of 32-bit support from essential tools such as the MacroMind Accelerator (from MacroMind Inc. of San Francisco) needed to play back MacroMind Director animations at full-motion speeds.

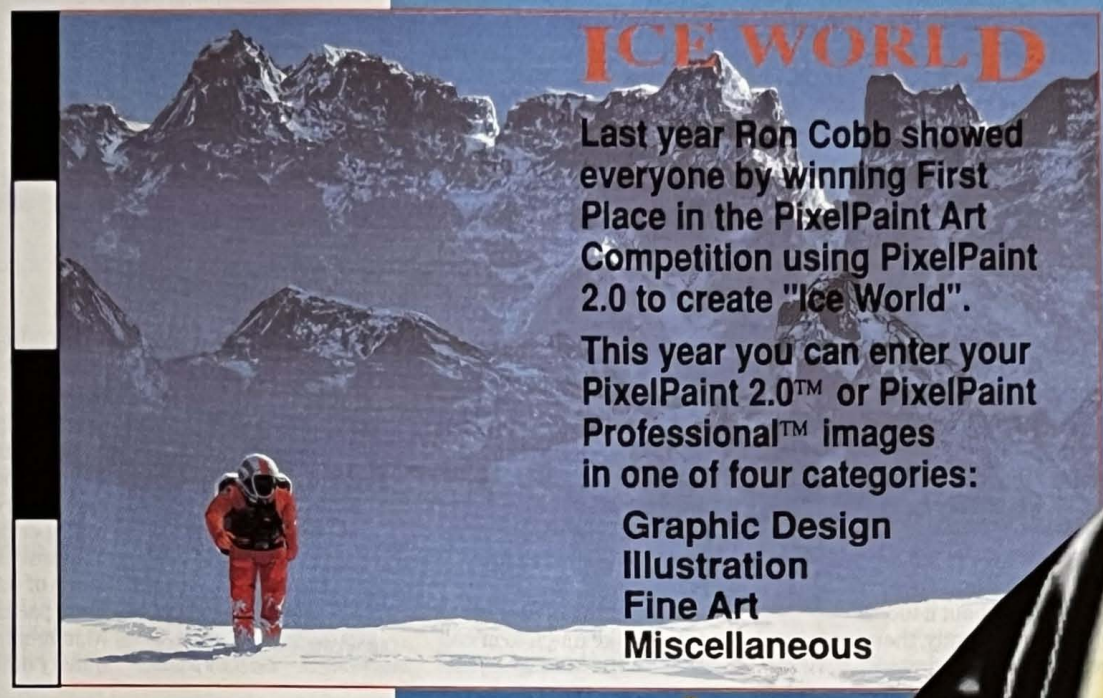
Overall, Elberg said, attempting full

See Multimedia, Page 26

Second Annual

PixelPaint Art Competition

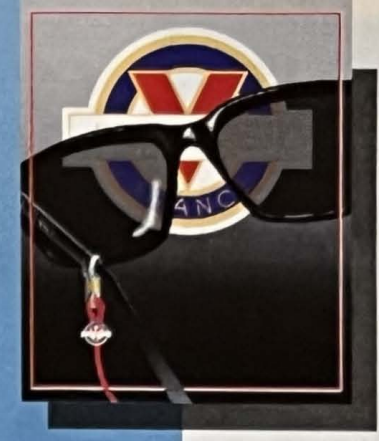
You know you're a great artist ... Show everyone!



Last year Ron Cobb showed everyone by winning First Place in the PixelPaint Art Competition using PixelPaint 2.0 to create "Ice World".

This year you can enter your PixelPaint 2.0™ or PixelPaint Professional™ images in one of four categories:

- Graphic Design
- Illustration
- Fine Art
- Miscellaneous



PRIZES!

Winners will receive valuable prizes including AppleCD SC drives, SuperMac video cards and 19-inch Trinitron monitors and other Macintosh hardware & software.

CALL for ENTRIES

Send your artwork now to enter the PixelPaint Second Annual Art Competition. Entries will be judged by an independent panel of leading designers, artists and Macintosh luminaries. Three winners will be selected in each of the four categories.

Call SuperMac to receive an entry form at (408) 245•2202, Dept. 300.

SUPERMAC TECHNOLOGY

485 Potrero Avenue, Sunnyvale CA 94086
(408) 245-2202 Department 300

©1989 SuperMac Technology All Rights Reserved SuperMac, PixelPaint & PixelPaint Professional are trademarks of SuperMac Technology.
Macintosh & AppleCD SC are registered trademarks of Apple Computer Inc. Vuarnet is a registered trademark of Allegra-Vuarnet.
Frog by Pat Coleman and Ice World by Ron Cobb using PixelPaint 2.0. All others images by Claire Barry using PixelPaint Professional.

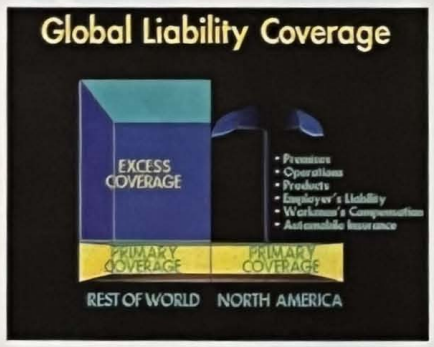
Multimedia on the trade-show floor

When designing a multimedia exhibit for a trade show, it's important to know how to make people stop and stare. "Because there are so many gimmicks that companies use to get people's attention, it's to your advantage to come up with something nobody's seen before," said David Biedny, one of the founders of the New York-based multimedia presentation design firm Incredible/I Inc.

One of Incredible/I's recent projects was an interactive animated laser disc presentation commissioned by the American International Group, an insurance conglomerate in New York. AIG used the exhibit at a trade show in Monte Carlo, Monaco, last October.

Although AIG was primarily an IBM

This initial screen in the AIG presentation allows you to choose to see and hear the presentation in English or French. The screen was drawn primarily in Adobe's Photoshop and exported as a PICT file into MacroMind Director.



This screen, rendered in Photoshop with type done in Director, is a linear animation, not an interactive screen. Its intent is to inform the user about the multinational services AIG offers to its largely corporate clients.

house, after seeing a demo of a multimedia presentation that Biedny and his partner, graphic artist Bert Monroy, had done for Oldsmobile the year before, AIG committed to using a Mac-based animated presentation at its next trade show.

For the Monte Carlo piece, Incredible/I initiated the concept, shot live video, composed and performed music, created graphics, and had the system up and running in six weeks. The presentation runs on an 8-Mbyte Mac II with a MicroNet internal hard disk and is shown on an Apple 13-inch RGB (red, green, blue) monitor equipped with a MicroTouch touch screen. The video segments — mostly interviews — run off of a Pioneer LD-V 4200 laser disc player onto a 13-inch Sony Trinitron monitor. Voices and music are heard on Bose Roommate speakers. Text and graphics were either created in or imported into MacroMind's Director Interactive, using both normal and accelerated animation files.

Biedny is committed to Director Interactive because it "allows you to take full control of the screen," he said. However, Biedny said he finds that the files get so big in Director Interactive that "there is never enough memory or speed on the hard disk." This is an important consideration for a trade-show exhibit, he said, because "people want to click on a button and have real-time response."

Biedny composed the music using MIDI (musical instrument digital interface) systems and then sequenced it through the Mac using Opcode's Vision. He ran that in real time, with the audio coming out of a mixing board that went into a MacRecorder box from Farallon Computing Inc. This ensured that the music and the animation on the screen were synchronized.

The director of the European division of AIG is featured on video and is heard through the Mac during the computerized segments of the piece. "To make his voice sound more alive," said Biedny, "we taped the voice using a portable tape deck, ran it through digital delay, then ran it through an equalization box. Then that was recorded into MacRecorder."

Synchronizing the video segments with the computer segments involved a lot of "hand-tweaking." Biedny said that if the program were run on a faster machine than the Mac II on which it was developed, "the synchronization would be lost. Even the fragmentation of the hard disk can make quite a difference."

The company's hard work paid off. AIG's response to the Monte Carlo piece was so positive that Incredible/I is reworking it to become a permanent part of the reception area of the company's office in England.

— By Suzanne Weber

It's become one of desktop publishing's most elusive acronyms.

WYSIWYG.

In fact, there's been so much talk about "What You See Is What You Get" technology that many people thought that's all it would ever be.

Talk.

But now they're talking about Adobe Type Manager.™ And once you see it, you may be talking about it too.

More importantly, there's a good chance you'll be creating with it. Because now you finally have a tool that makes your jagged Macintosh® display text sharp and easy-to-read.

So whether you're italicizing type, resizing a block of text, or zooming-in for some precise editing and kerning, Adobe Type Manager keeps your words looking great every time.

Speaking of time, it doesn't take much to install Adobe Type Manager. Just drag it into your system folder and you'll never have to think about it again.

But you should think about this.

Adobe Type Manager supports virtually every Macintosh program. From desktop publishing and on-screen presentations to HyperCard® applications, it improves your type in all kinds of sizes and styles. Each package of Adobe Type Manager includes high-quality outline versions of

When you're ready to add to the 13 outline fonts from Adobe Type Manager, pick up a copy of the Plus Pack. Then you'll have all 35 high-quality fonts contained in the LaserWriter® IINT and IINTX printers.

Adobe, the Adobe logo, PostScript and the PostScript logo are registered trademarks and Adobe Type Manager is a trademark of Adobe Systems Incorporated in the U.S.A. HyperCard, ImageWriter, LaserWriter

Multimedia on the factory floor

By using the Macintosh to integrate animation created in HyperCard with a series of simple still images, voice messages, recordings of operating equipment and high-resolution graphics, Owens/Corning Fiberglas has developed an effective, low-cost multimedia training tool for its manufacturing facility in Huntingdon, Pa. The facility makes Fiberglas thread and Fiberglas matting, which is used in computer circuit boards.

Combined with Neuron Data Inc.'s Nexpert, the training tool serves as an expert system for troubleshooting equipment problems and maintaining quality control. Nexpert's rule-based system is linked to the HyperCard stack with Neuron Bridge.

"It takes a lot of different people to know how this equipment runs," explained William H. Corbin, a system engineer at the plant who developed the training tools. "At any given time, no one person is here who knows all aspects of the operation."

Corbin had experts from Pennsylvania State University interviewed on how to handle equipment problems. They produced about 500 Hyper-Card screens to help workers and supervisors troubleshoot problems. The user selects items that match the events that led to the problem, and then the computer offers a diagnosis.

The HyperCard animations show a series of stills of processes that otherwise could not be seen by workers — for example, an enclosed mixer rotating and compressed air combining with a raw material.

The Mac-based system also can be queried and can offer advice when a product isn't coming out according to specifications. Once a problem is identified, diagrams on the electronic cards might show how to change the equipment's control settings.

With Farallon Computing Inc.'s MacRecorder, recorded voices tell workers what to do in a critical situation, such as when equipment must be turned off immediately. Workers also can listen to the recorded sounds of normally and abnormally functioning equipment.

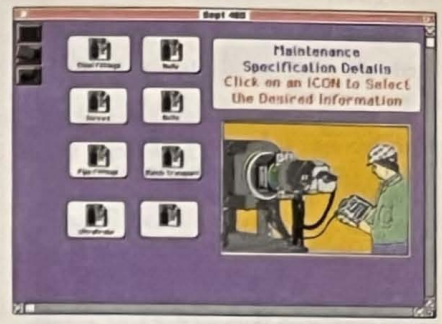
The system's color images and high-resolution pictures, scanned in and then touched up in SuperMac Software's PixelPaint or Letraset's ImageStudio, are integrated into the HyperCard stack using Plus from Spinnaker Software Corp. of Cambridge, Mass. Plus automatically converts an existing HyperCard stack, adding its own superset of commands to those of the Apple product, without the use of external commands.

Technical problems were not the only barriers Corbin had to overcome in developing the Mac-based training tools. "Part of the company's MIS group is hard-core MS-DOS and has not been aware of the Mac's capabilities," he said. Although the company has some 15,000 workers and about 3,000 DOS machines, there are only about 600 Macs, according to Corbin's estimate.

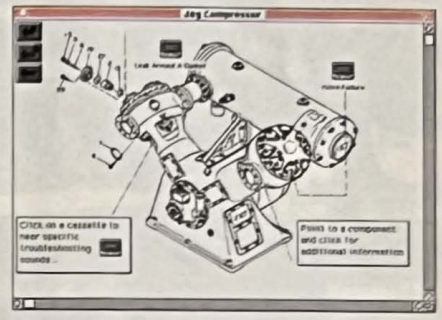
Spinnaker is expected to release a Windows version of Plus, so the training sequences, which will still be developed on a Mac, also will be able to run on the DOS machines.

Corbin also is experimenting with film and videotape sequences of plant procedures. "Sometimes it's hard to compress procedures into HyperCard graphics. Video can show in detail what needs to be done," he said.

Thus a $2 billion Fortune 500 company has entered the world of multimedia. "Some call it desktop presentation or training. We're just looking at it as practical information access," Corbin said. — *By Stuart Silverstone*



The Owens/Corning Fiberglas manufacturing training system is broken down by department. The training system for the maintenance department breaks down further, allowing workers to branch into explanations of specific areas.



As workers go deeper into the system, they find more detail. If they click on a number, they see an exploded parts diagram. If they click on a picture of a cassette, such as the one labeled "valve failure," they hear just what a valve failure sounds like.

the 13 most popular Macintosh fonts. Then, when you're ready for more variety, you can get 22 additional fonts in the Plus Pack. But that's just the beginning.

Because Adobe Type Manager also works with the more than 550 typefaces from the Adobe® Type Library, as well as most other PostScript® Type 1 fonts.

When it's time to print, Adobe Type Manager makes sure those typefaces look as good as ever out of your PostScript-equipped laser printer—and better than ever from your Apple ImageWriter®, Hewlett-Packard DeskWriter™ and most other QuickDraw™ devices, including film recorders and fax machines.

Best of all, Adobe Type Manager gives you all these WYSIWYG features for a mere $99. And the variety of the Plus Pack is yours for just $198.

So call 1-800-344-8335 for the name of your nearest Adobe Authorized Dealer (outside the U.S.A. and Canada, call your local distributor).

Because now's the time to start seeing things as they really are.

New upgrade
Improved version 1.2 now available

ADOBE
Adobe Systems Incorporated

Look for this symbol on computers, printers and other products that include PostScript software from Adobe Systems. It's your guarantee of quality and compatibility.

and Macintosh are registered trademarks and QuickDraw is a trademark of Apple Computer, Inc. DeskWriter is a trademark of Hewlett-Packard Co. © 1989 Adobe Systems Incorporated. All rights reserved.

Multimedia

From Page 22

productions in 24 or 32 bits requires a lot of work-arounds.

For those with the budget for extra hardware, however, help is starting to appear. Graphics accelerator cards, such as SuperMac's Spectrum/24 II, can boost the speed of a 24-bit display to about the same speed as unaccelerated one-bit displays, said Jim Armstrong, former Apple multimedia and HyperCard evangelist and now a multimedia developer. Without that kind of hardware support, a Mac with 24-bit software runs more slowly than with eight-bit software, even in eight-bit color mode.

However, not every project must have full 24- or 32-bit color, said Brian Loube, an animation director at R/Greenberg Associates in New York. For an animated penguin sequence in a commercial for N'ice cough drops, he explained, R/Greenberg wanted penguins to talk. Loube turned to MacroMind Director with eight-bit animation to do the talking penguin beaks, he said, because it was more important to produce reasonable results quickly than to aim for maximum realism.

Similarly, The HyperMedia Group's Edlin reported that eight-bit images were fine for catalogs with digitized color photos.

Storing the bits. Whatever resolution you choose, producers agreed, creating or importing the images rapidly leads to the next big decision: how to work with, store and play back the resulting files. Multimedia storage requirements can be staggering.

"We work with files of more than 12 Mbytes for a single image," Allied's Wiley noted. With available Mac configurations supporting only a maximum of 8 Mbytes of RAM under the Macintosh operating system, multimedia artists have to rely on techniques that put parts of images on disk. Wiley, for example, said his staff uses Virtual — a program that simulates extra RAM memory using storage space on a hard disk — from Connectix of Menlo Park, Calif., but he said he's hoping that Apple will soon solve the issue with its own virtual memory scheme and bigger available memory space in the forthcoming System 7.

Furthermore, the problem isn't just with single images. An animation sequence needs multiple images, which all have to be stored as well as edited.

For this type of production, Wiley said, users need an effective compression technique for packing more image information into less storage space and for speeding the transfer of images from storage to memory. TIFF and other ordinary formats used for most scanned documents aren't efficient enough. Forthcoming video compression techniques range from the Digital Video Interactive (DVI) approach shown by Intel Corp., Microsoft Corp. and IBM Corp. to some of the experimental methods demonstrated by Apple.

However, productions that don't use digitized images or a large number of 32-bit pictures can be much smaller. According to Armstrong, most workaday multimedia presentations fit on a 44-Mbyte removable hard drive.

Talking dollars and sense

It's true you do get what you pay for, but you don't always have to pay the most to get the best. Personal style and budget are important considerations when choosing your multimedia system.

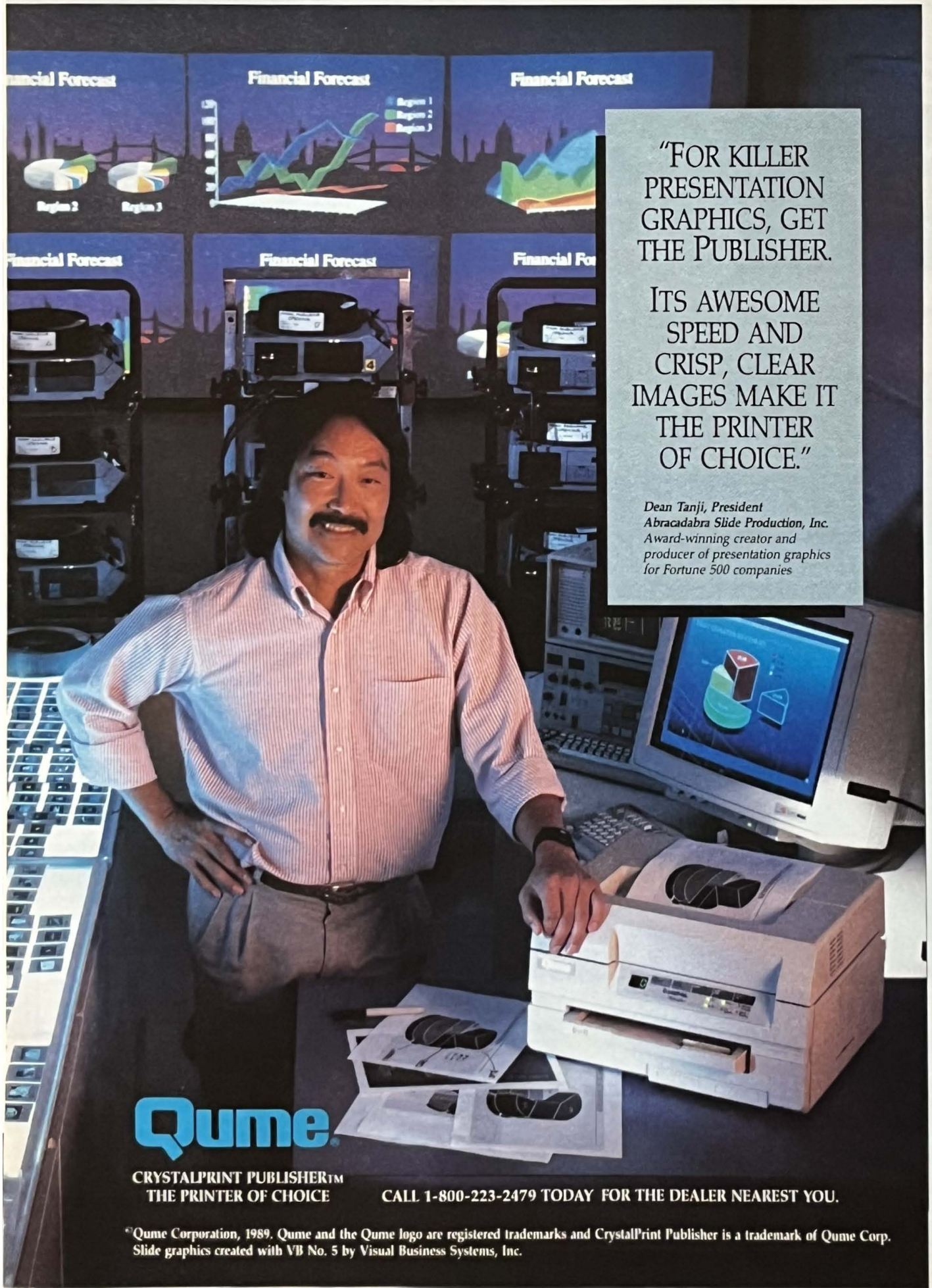
Producer John B. deLorimier Jr. sits down to work at a Mac II with 8 Mbytes of RAM ($8,867) with an Apple video card ($648) and 13-inch Apple monitor ($999). "Big screens are nice," he said, "but they're slower." To this basic configuration he has added an Apple scanner ($1,799), AppleCD SC CD-ROM drive ($1,199), Farallon Computing's MacRecorder ($249) and a Mass Microsystems 45-Mbyte removable cartridge drive ($1,799.95 to $4,799.95). Local output comes from an ImageWriter ($595) and a set of stereo speakers.

DeLorimier's usual software tools include Adobe Illustrator ($495), Adobe Type Manager ($99), Electronic Arts' Studio/8 ($495.95), Farallon's SoundEdit, Letraset's ImageStudio ($495), MacroMind Director ($695), Paracomp's Swivel 3D ($495), and Apple's HyperCard and HyperScan software.

Joe Lin, art director for Animatrix, said a typical workstation there has a Mac IIcx with 8 Mbytes of RAM ($8,667), a 13-inch Apple monitor and a 19-inch SuperMac Technology monitor ($4,200) for the big picture. Dual SuperMac hard drives ($3,499 to $6,999) plus a Mass Microsystems 45-Mbyte removable cartridge drive provide storage.

Animatrix also might plug in one of its AppleCD SC CD-ROM drives, an Apple or Howtek scanner ($6,995 to $8,195), Farallon's MacRecorder, or a Truevision NuVista card ($2,995 to $6,495).

For software, Lin said, Animatrix also tends to favor HyperCard, Director and VideoWorks Interactive, Studio/8, Swivel 3D and SoundEdit.


Financial Forecast
Financial Forecast
Financial Forecast
Financial Forecast
Financial Forecast
"FOR KILLER PRESENTATION GRAPHICS, GET THE PUBLISHER.
ITS AWESOME SPEED AND CRISP, CLEAR IMAGES MAKE IT THE PRINTER OF CHOICE."
Dean Tanji, President
Abracadabra Slide Production, Inc.
Award-winning creator and producer of presentation graphics for Fortune 500 companies
Qume
CRYSTALPRINT PUBLISHER™
THE PRINTER OF CHOICE
CALL 1-800-223-2479 TODAY FOR THE DEALER NEAREST YOU.
©Qume Corporation, 1989. Qume and the Qume logo are registered trademarks and CrystalPrint Publisher is a trademark of Qume Corp.
Slide graphics created with VB No. 5 by Visual Business Systems, Inc.

Sound bytes. Handling sound and music brings up another set of decisions. As with images, sound can be digitally produced from start through recording and up to the final stages of playback, or it can be captured from the analog real world, then stored and edited in digital form.

The Mac has sound output capability, and later models have sound chips, said producer deLormier. But right now the full capability of the Mac is often needed to handle either images or sound. And since sound is played out of RAM, you can't have much CD-quality sound without using a third-party product.

Projects distributed on CD-ROMs, in which the total data rate (the amount of sound you can get from a certain amount of storage) is limited, require a great deal of forethought to arrange the sound and image transitions so they won't get in each other's way.

The animation team at R/Greenberg Associates in New York used MacroMind Director with eight-bit animation to keep the "spokespenguins" in this N'ice cough drop commercial chatting with each other.

Compression is also needed for captured analog sound, said free-lancer Elberg. Even the basic-quality sound captured with what seems to have become the standard tool, Sound Recorder from Farallon Computing Inc. of Berkeley, Calif., quickly fills many megabytes in just a few minutes of recording. And, said Elberg, for some projects she really wants CD-audio fidelity or better, higher-quality sound than Sound Recorder delivers.

Synchronization of sound and picture can also be a challenge with current System software and hardware, said Armstrong. The Mac, he said, was originally designed for static documents, so sound support is still limited. While some new synchronization facilities had been planned for System 7, Apple said this feature is one of several that won't be included in the initial System 7.0 release.

So for some presentations, an add-on sound board such as the new $1,000 Audiomedia card from Digidesign of Menlo Park, Calif., may be the way to go. The board includes a digital signal processor chip for manipulating analog wave forms. This approach allows the board to create complex sound using very low data rates from the Macintosh.

Putting it all together. While entire multimedia productions can be created with single programs, most developers said they prefer using more-specialized tools to create the different elements of a production and then integrating the results. SuperCard from Silicon Beach Software Inc. of San Diego, HyperCard and MacroMind Director are the most frequently cited integration tools.

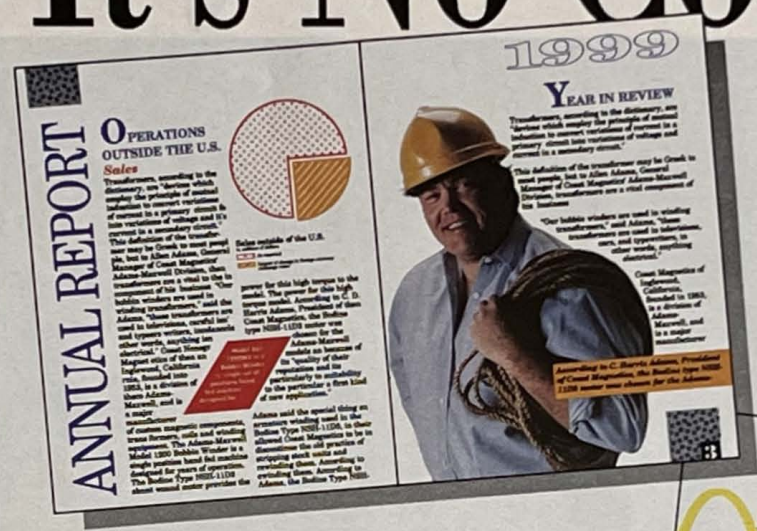
"If you're talking base platform, broadest possible distribution, chances are you're talking HyperCard," said Edlin. "But if you're talking color and multiple windows, you're not."

Integration platforms can also be mixed, said Dr. Robert Markison, a San Francisco-based hand surgeon who makes extensive use of multimedia in teaching and presentations. He uses HyperCard, MacroMind Director and VideoWorks II, sometimes in combination with slides and overheads. The right tool, he said, "depends on the project and the audience." Without a range of choices to work with, he cautioned, even a flashy presentation can get boring.

Lastly, said several developers, improvements are coming. Multimedia continues to capture users' interest, even among those who may scoff at it, so developers seem eager to continue making the technology more seamless and easier to use. According to a few developers in the know, MacroMind's forthcoming Director Interactive, a new version of HyperCard and an upgrade of SuperCard, all scheduled for release this year, should provide a fuller range of tools and faster operation. That should help keep production costs in line and make producing multimedia on the Macintosh more accessible. □

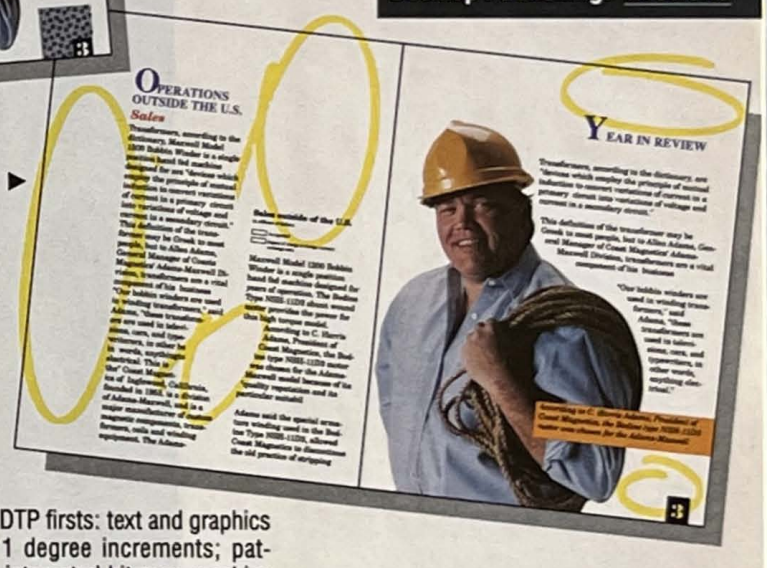
It's No Contest!

INFO WORLD
EXCELLENT VALUE
Sep. 4, 1989



▲ Annual report produced using PUBLISH◄IT!

The same...produced with PAGEMAKER.* ▶



Please. Compare Publish◄It! to the Industry Standard ...PageMaker.

"...brings ease-of-use to Desktop Publishing." InfoWorld

Take a look. You'll see the difference!
PAGEMAKER cannot rotate text, create fill patterns and slant margins. You'll need additional—and expensive—programs.

With PUBLISH◄IT!—*all you need is PUBLISH◄IT!*

Make way for the new standard in DTP software, PUBLISH◄IT!—the first *completely self-contained* desktop publishing program for Macintosh computers. PUBLISH◄IT!—with 11 DTP "firsts"—combines word processing, page layout, typesetting, graphics, and paste-up in one easy-to-master program.

What Makes PUBLISH◄IT! the New Standard in Professional Business Communications?

- It integrates advanced text, page layout, editing, and complete drawing and painting features—*all into one program.*

- Includes 11 DTP firsts: text and graphics rotation in 1 degree increments; patterned text; integrated bit-map graphics editing; text wrap inside any object; slanted margins; true editable thumbnails; 8 overlap modes; page magnification from 12% to 800%, and much, much more!
- Contains more integrated word processing features—like a 240,000-word thesaurus and 160,000-word spell checker. You can import text from all popular word processors.
- Allows you to edit scanned images *after* they're placed into your document.
- A Quick-Start Mini-Manual; 70 built-in sample layouts; a unique on-screen help reference system. You'll produce your first document *in less than 90 minutes!*
- It's designed specifically for the Mac. Written in Assembly language, it's faster across most functions, and requires less than half the disk and memory space of PAGEMAKER.
- *And*, with all this, you'll spend a few hundred dollars less! PUBLISH◄IT!'s suggested retail price is $395!

Available for Macintosh computers.*

Ask your dealer for a demonstration today, or call Timeworks for more information:
1-708-948-9202. FAX:**708-948-7626**

TIMEWORKS PLATINUM SERIES

444 Lake Cook Road
Deerfield, Illinois 60015-4919
708-948-9200

INCLUDES A MONEY BACK GUARANTEE, TOO!

*PageMaker version 3.02. Registered trademarks of their respective companies.
© 1988 Timeworks, Inc. and Folon Corp. All rights reserved.

V.42
V.42bis

What is already one of the best 2400 modems in the world can now perform like a 9600.

The secret is the new international standard for data compression. V.42bis. It's built into our new Hayes V-series® Smartmodem 2400™ to give it up to four-to-one throughput.

But even at four times the speed limit, this 2400 always handles like a dream.

That's because it's also equipped with V.42, the most dependable and compatible form of error-control available today.

In addition to implementing these

Think of it as the most afford

international standards, the V-series Smartmodem 2400 is compatible with MNP® error-control and MNP5 data compression.

So regardless of the modem technology you have been using, you can use the V-series Smartmodem 2400 to move up to new standards and higher performance, without having to replace your current equipment.

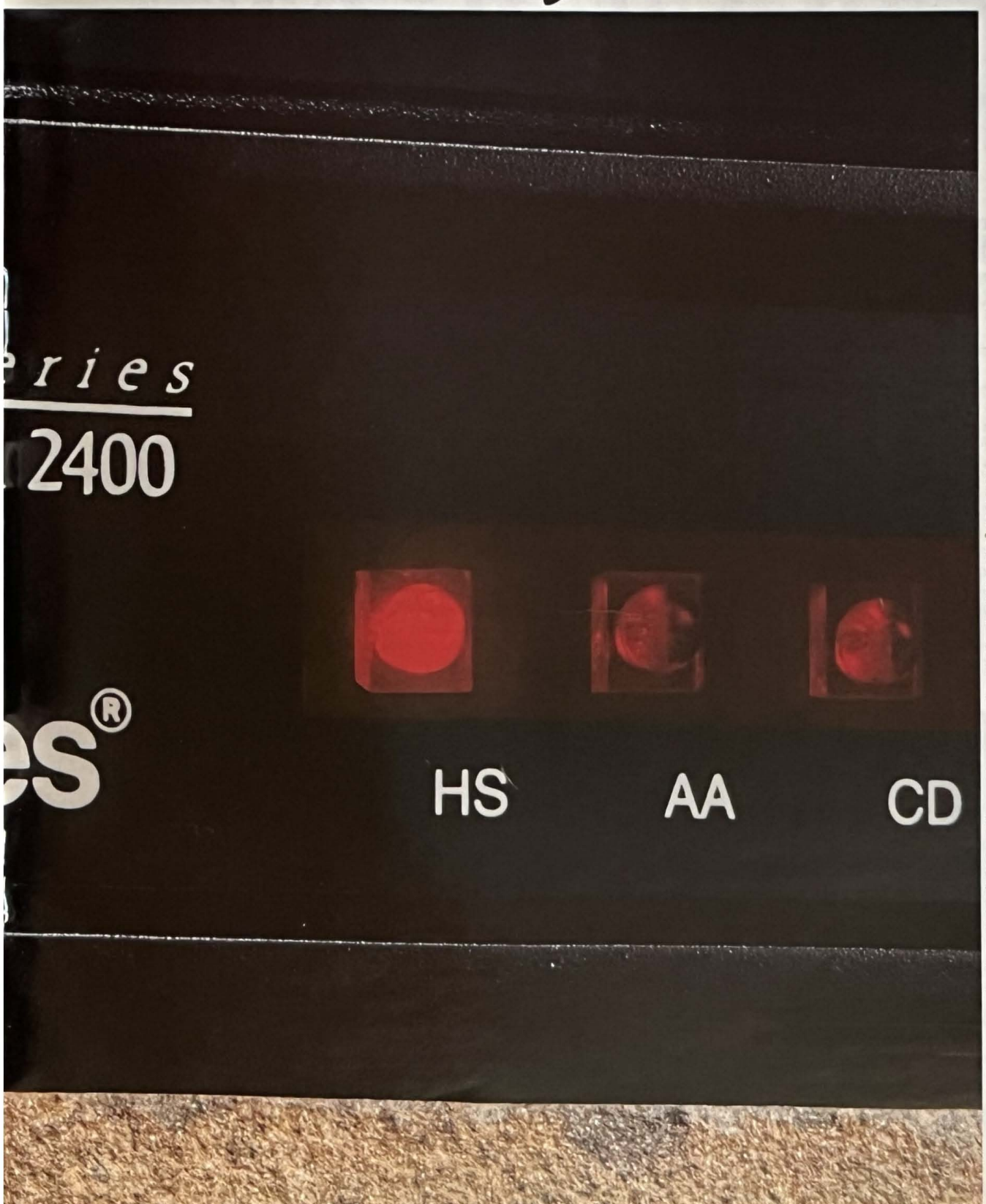
To find out the location of your nearest Hayes dealer, call 1-800-635-1225.

But hurry. This modem is going faster than ever.

Hayes.

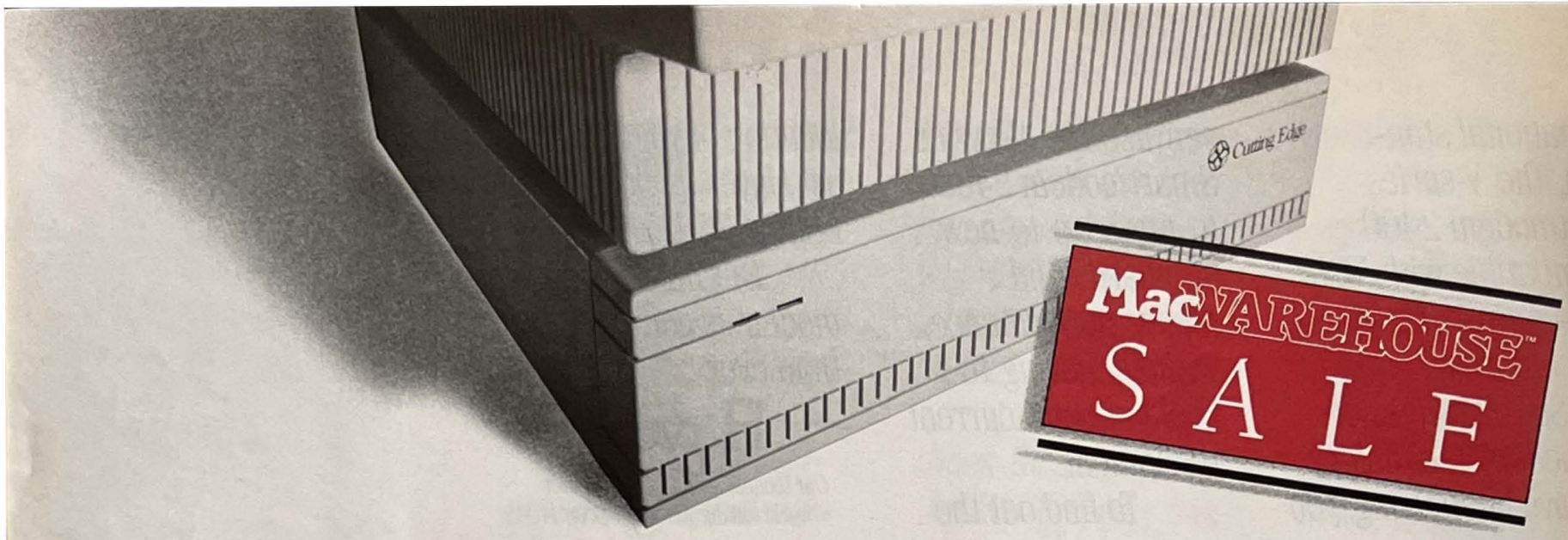
Our technology has the computer world talking. More than ever.

dable 9600 you've ever seen.



MNP is a registered trademark of Microcom, Inc.

© 1990 Hayes Microcomputer Products, Inc., P.O. Box 105203, Atlanta, GA 30348



Buy a Hard Drive Now And Save Up To $300

"The best deal in hard drives just got better!"

Between now and February 28th, MacWarehouse is offering savings on every hard drive we sell. So, if you're thinking of buying a new hard drive, your timing couldn't be better. Check out our sale prices and your savings, compared to our December 1989 prices, in the chart.

We offer drives by leading manufacturers like Cutting Edge, C.M.S., Quantum, Dolphin, PLI Infinity Turbo and others — all at unheard of low prices.

	20+ MB		30+ MB		40+ MB		60+ MB		80+ MB		***40+ Removable	
	SALE PRICE	YOU SAVE	SALE PRICE	YOU SAVE	SALE PRICE	YOU SAVE	SALE PRICE	YOU SAVE	SALE PRICE	YOU SAVE	SALE PRICE	YOU SAVE
Cutting Edge	359	$80	479	$20	525	$24	609	$20	699	$40	829	$70
CMS, MacStack	459	$70	499	$46	599	$26	649	$50	769	$30	839	$36
Dolphin, Integra	429	$70	479	$116	549	$170	615	$163	695	$300	879	$260
PLI, Infinity Turbo	–	–	569	$20	619	**$26	–	–	–	–	1098	$21
*Quantum Internal	–	–	–	–	499	$26	–	–	829	$40	–	–

Savings are calculated from MacWarehouse December 1989 published prices. *Quantum drives are for internal installation and require a 3.5 Internal Drive Kit for $39. **PLI is a 50meg turbo drive. ***40+ meg Removable Cartridge Drives come with 1 cartridge. Additional cartridges available.

Let our helpful sales staff take the hassle out of buying a drive. They'll tell you which drive

mechanism each manufacturer uses. They'll also tell you about access speed, reliability, software and the manufacturer's warranty.

MONEY BACK GUARANTEE

They'll tell you which drives come with the MacWarehouse 30-day money back guarantee. Try one at home. And if, for any reason, you're not 100% satisfied, just return it to us within thirty days and we'll refund your money.

Then there's the MacWarehouse Loaner Drive Program. Buy from MacWarehouse and if you ever have a problem, you won't be without a drive for more than a few hours.

READY TO USE

A hard drive from MacWarehouse couldn't be easier to use. We'll tell you which ones come pre-formatted — ready to use right out of the box. You just plug in, turn on your Mac and go!

If you do need any help, the MacWarehouse Technical Support staff is standing by our toll-free lines to assist you.

LIMITED TIME OFFER

MacWarehouse sale prices, based on capacity, are shown in the chart. Also shown are the savings from pre-holiday prices. (This is a limited time offer, valid through February 28, 1990.) Overnight delivery is just $3, anywhere in the Continental United States.

So call us now and tomorrow morning you'll be up and running with the best hard drive deal in the business!

MacCORPORATE
A division of MacWAREHOUSE
1-800-622-6222
In Connecticut call:
1-203-866-1701
Mon-Fri 8:00a.m. – 8:00 p.m. (Eastern)
FAX 1-203-855-1386
(If you wish to place an order with our consumer division the number is 1-800-255-6227)
MacWarehouse™ 47 Water St., S. Norwalk, CT 06854

MacWarehouse 30-Day Money Back Guarantee

Many of our drives come with the MacWarehouse 30-Day Money Back Guarantee. If, for any reason, you're not completely satisfied, call us within thirty days of receipt for a return authorization number and full refund of the purchase price.

WKAØ5

MacWAREHOUSE™

MacWEEK COMPARISONS • TRENDS • REVIEWS

ProductWatch

MacInTouch
Image 1.22Y is a powerful public-domain graphics program

Reviews
Vellum 1.0 from Ashlar;
In brief: Canvas 2.1

COMPARISONS

Nikon LS-3500 scanner has the edge on detail

The Nikon LS-3500 may be a newcomer to the slide scanning market, but it outperforms the Barneyscan.

By Bruce Fraser

Although flatbed color scanners are beginning to make their way onto the desktop, until recently the only way to bring high-resolution 24-bit color images to the Macintosh was by using slide scanners to scan 35mm photographic slides. These scanners make three eight-bit scans through red, green and blue filters, respectively, then combine the three to make a 24-bit full-color image.

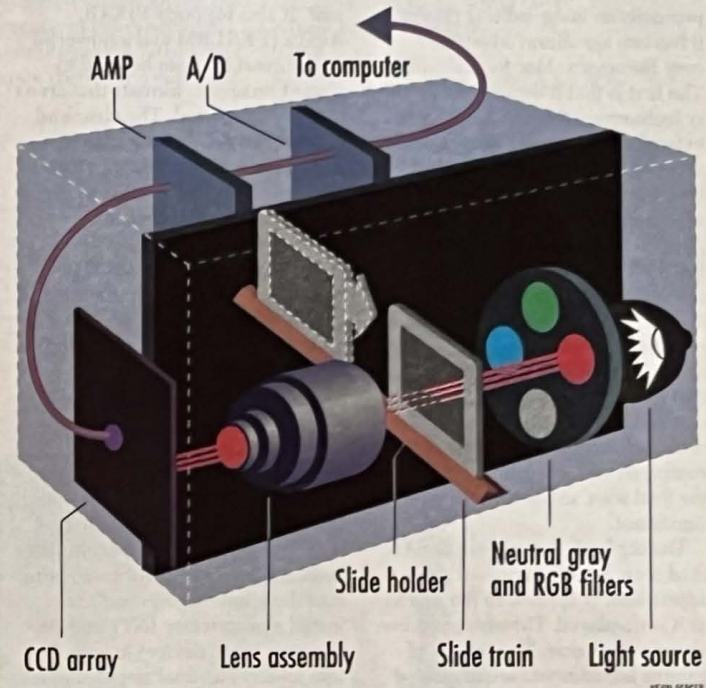
In this review, we compare the original Mac slide scanner, the Barneyscan Slide Scanner, with a promising newcomer, the Nikon LS-3500. Both units require a Macintosh II with a minimum of 2 Mbytes of RAM (more is desirable) and plenty of hard disk space. A 24-bit color monitor, while not required, is recommended.

The Barneyscan. Barneyscan Corp. introduced slide scanning to the Macintosh market, and while the hardware is beginning to show signs of age, the software that comes bundled with the Barneyscan offers a complete and elegant true-color image acquisition and editing package.

The Barneyscan hardware consists of the scanner itself, a NuBus board and a cable to connect the scanner to the board. Rather than use a standard GPIB (General Purpose Interface Bus) interface, as do most other slide scanners, Barneyscan uses its own proprietary NuBus board. While this arrangement is less flexible than a GPIB board, it does make configuration much easier, since there are no parameters to set. Hardware setup consists simply of installing the board in a NuBus slot; finding a location for the scanner that offers protection from vibration, heat and significant temperature swings; and plugging in the cable.

The software comprises the BScan Startup document (INIT), the BarneyscanMac and the BarneyscanXP applications as well as three auxiliary files that must be kept in the same folder as the BarneyscanXP. After installing the software and rebooting the Macintosh, the next step is calibrating the scanner.

You must calibrate the scanner each time you turn it on. To do so, you use the BarneyscanMac application and a special calibration slide included in the package. Once started, the calibration process requires no intervention from the user and takes about five minutes to complete. The final step before performing an actual image scan is focusing the scanner. In practice, we found it necessary to refocus each time we scanned a new slide. BarneyscanMac's Focus command brings up a dialog box displaying a number. You adjust a thumbwheel on the scanner until you get the highest number displayed in the dialog box.

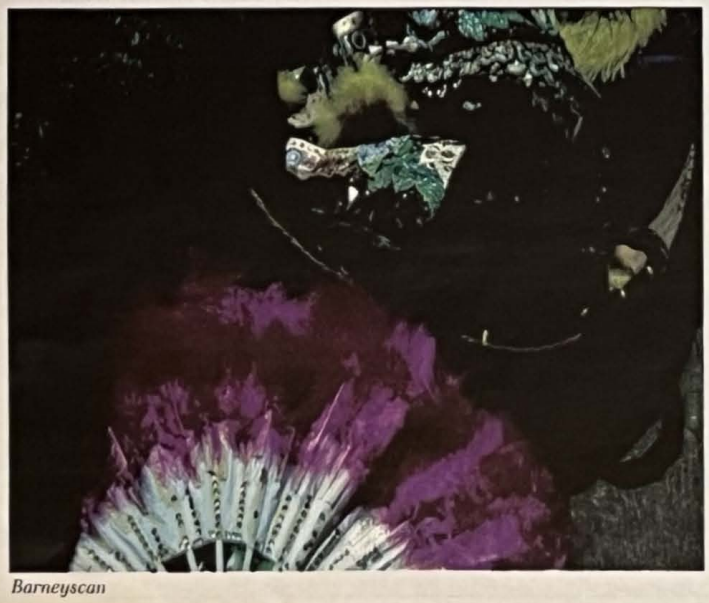


Scanning with Barneyscan. You can use either BarneyscanMac or BarneyscanXP to scan images. BarneyscanMac is the simpler of the two applications. In addition to offering calibration and focus features, it lets you start a scan, then adjust the brightness and the gamma curve for each color plane (red, green and blue). Gamma correction compensates for the difference in relative brightness of colors as displayed on the video screen and as measured by the scanner. In general, dark tones don't show up as brightly on the screen as they should, so you use gamma correction to lighten the dark and midlevel tones more than the lighter ones. You can save and load gamma settings independently of images.

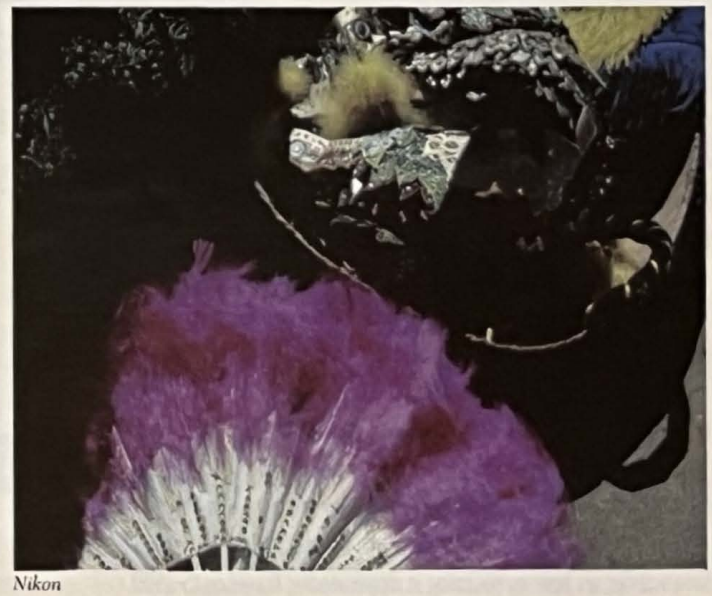
The Barneyscan scans at a fixed resolution of 1,024 by 1,536 pixels. At 24 bits per pixel, this creates a file of about 4.5 Mbytes, so BarneyscanMac lets you crop and resize the image area before you save the image to disk in either Barneyscan's proprietary file format or the PICT or TIFF formats for the Macintosh. The program also supports a variety of non-Macintosh file formats, including TIFF for the IBM PC, Targa and the Artisan format used on Sun workstations. In each case, you can save a full 24-bit image or you can convert it to a dithered eight-bit image.

For most of our scanning, we used the second application, BarneyscanXP. This full-featured image acquisition and editing package is a

See Comparison, next page



Barneyscan



Nikon

Scanning the same 35mm slide on the Barneyscan Slide Scanner (near right) and the Nikon LS-3500 (far right) produces two different images. The Nikon image has a superior dynamic range of contrast and pulls out more of the dark details.

Comparison *From previous page*

predecessor of Adobe Systems Inc.'s soon-to-be-released Photoshop, with the addition of a scanner driver and a non-intrusive form of copy protection. (It won't run unless the machine contains a Barneyscan board.) Although BarneyscanXP is primarily an image editing program, it has two significant advantages over BarneyscanMac for scanning. The first is that it uses virtual memory techniques, thereby allowing you to work on large color images while using only 2 Mbytes of RAM rather than the 5 Mbytes required by BarneyscanMac. The second is the prescan feature, which performs a fast scan that results in a low-resolution black-and-white image. You can use the prescan image to set cropping borders, resize percentages, and adjust exposure settings so that the image is cropped and resized during the final scan. The prescan takes about a minute, as compared with seven minutes for the final scan, so the time saved is significant.

During both the prescan and the final scan, a built-in default gamma adjustment is applied to the image as it is displayed. However, you can change this value. The results of gamma adjustments are displayed interactively as you make them. The default Automatic Exposure setting gives adequate results for slides containing an average range of contrasts, but highly contrasting images generally require a manually set exposure setting. The digital scope feature is useful here. It displays in graph form the densities of a vertical slice of the slide. By moving the slide backward and forward manually, you can obtain a good idea of the tonal range of the image. At the same time, you can adjust the exposure slider and see the effects of those adjustments on the density curve.

BarneyscanXP's image editing features are worthy of a review unto themselves. In addition to a complete set of color paint tools, the program can handle up to 16 eight-bit channels per image. These channels can be used as selection masks or as scratch pads for experimentation. The Filters command provides a wealth of options, such as Sharpen, Blur, Diffuse, Find Edges and Despeckle. The program supports all common Macintosh formats (TIFF, PICT2, Encapsulated PostScript, CompuServe GIF and Thunderscan) in addition to its own proprietary format. It also supports PIXAR, Amiga IFF/ILBM and a powerful Raw format that can be used to import images in formats that aren't directly supported. The clear and comprehensive documentation includes a well-thought-out tutorial that quickly brings you up to speed on the program's intricacies.

The Nikon LS-3500. The Nikon LS-3500 slide scanner is still technically in beta testing, but it is available for sale and hence eligible for review here. Nikon Inc.'s efforts in developing special optics for this scanner are amply repaid by the ease of use and high resolution that the unit offers.

The LS-3500 uses a GPIB board to connect to the Macintosh. This must be purchased separately. After installing the board and connecting it to the scanner, you must also install a proprietary INIT and cdev (Control Panel device) in your System folder. The final step is to use a special application that configures the GPIB board correctly for the scanner. The photocopied documentation contains clear instructions on how to accomplish this, and the Colorflex scanning software includes an interface test that confirms the setup.

Scanning with the Nikon LS-3500. Much of the Nikon scanner's ease of use stems from the fact that it is self-calibrating and that it focuses automatically. Four slide holders are supplied with the package, each designed to hold a different kind of slide mount. The manual contains a comprehensive listing of the types of slide mounts in use worldwide and the correct holder to use for each. Once you have loaded the slide in the right holder with the correct orientation, you can simply place it in the scanner, close the dust cover and start scanning using the Colorflex software's default settings.

Colorflex lacks BarneyscanXP's image editing features, but it allows a great deal of control over the scanning process itself. The first time you choose the Color/Grayscale Preview function, the scanner performs a task called prescan sensitometry, which examines the range of light to dark tones in the image. It then performs a scan and displays the result in either eight-bit or 24-bit color, depending on the monitor setting. You can use this preview image to set cropping borders and as a basis for adjustments to the exposure and gamma controls.

The Basic Color Controls dialog box contains contrast and brightness controls similar to those on a television. It also has red, green and blue tint controls, which are useful for making minor adjustments to color balance. The Analog Exposure Controls dialog takes a different approach. You can assign numeric values for red, green and blue gain that effectively change the f-stop of the exposure. The Overall Exposure setting works the same way and applies equally to the red, green and blue settings. Transparencies, whether positive or negative, usually have a wider dynamic range from dark to light than can easily be printed on paper. The Black Level Threshold control allows you to lighten or darken the blackest black in an image without affecting the midtones or highlights. The third control dialog box, the Gamma Curve Controls, lets you set a gamma value for each channel (red, green and blue) and set values for the highlights and shadows in each channel. In effect, the gamma value sets the slope of the gamma curve, while the highlight and shadow controls set the curve's end points.

Before scanning to a disk file, you need to choose the resolution pitch setting, which controls the final size of the scan. The maximum resolution of the scanner is 6,144 by 4,096 pixels, which results in a 75-Mbyte file. To determine the file size, you divide the total resolution of the scanner by the pitch setting number. Thus, the default setting of eight gives a scan of 768 by 512 pixels. You can set the pitch from zero to 50. The very high resolutions are primarily useful for scanning a small area of a slide.

One thing we didn't like about the Colorflex software was its nonstandard approach to file naming. When you start scanning to disk, you are asked to name a folder. The resulting scan appears in the folder, with the file name TIFF.INT. It is accompanied by three files named RED, GREEN and BLUE, which

See Comparison, next page

In summary: Slide scanners

The Barneyscan Slide Scanner package contains some of the best scanning and image editing software we have seen, but the hardware, while adequate, fails to measure up to the Nikon LS-3500. The calibration process for the Barneyscan product is a hassle, and we wonder what happens to the scanner's accuracy when the special calibration slide is no longer in pristine condition. The manual focusing is also problematic: No matter how much time we spent fiddling with the focus controls, we were often left wondering if we could have made the focus sharper if we'd fiddled with it more.

The Nikon scanner's self-calibration and auto-focusing set a new standard in ease of use for slide scanners. It's also noticeably faster than the Barneyscan, is capable of four-times-higher resolution and is only slightly more expensive. While the Nikon Colorflex software's non-standard file handling methods are annoying, the package's advantages more than outweigh its disadvantages. If you're really in the market for a $10,000 slide scanner, we have no hesitation in recommending the Nikon LS-3500.

MacInTouch

RIC FORD AND RICK LEPAGE

Scientific image processing app is freeware

PRODUCTS

Image. Wayne Rasband has released a remarkable image processing application and its Pascal source code into the public domain. Image Version 1.22Y is the type of program that might cost thousands of dollars as a commercial product, but it is available free with an excellent manual from users groups and on-line services such as Connect and CompuServe.

Image 1.22Y is designed primarily for scientific image analysis, so it lacks the special features of high-end commercial programs, such as the capability to do color separations or work with 24-bit images. Still, Image can open PICT2 and uncompressed TIFF files and manipulate them extensively in black and white, gray scale or color using a flexible set of MacPaint-like tools and menu items.

Video images can be captured from digitizing boards, and Image offers halftoning and dithering functions for printing on many different output devices. Color images can be converted to gray scale, and color palettes can be imported or exported.

The program's image processing functions include smoothing, sharpening and noise reducing. Image analysis features let you define thresholds and measure areas, densities, angles, distances, centers of mass, particles and other items. Numeric results can be calibrated and easily moved into other programs such as spreadsheets.

Image is surprisingly Mac-like and easy to use, despite its powerful features. The tools and menus are straightforward and the documentation is well-written, making the program valuable for artistic work and general-purpose graphics as well as scientific applications.

A scientific screen from Image Version 1.22Y.

The recommended minimum configuration for Image 1.22Y is a Mac II with an eight-bit display and at least 2 Mbytes of memory. We ran it on a variety of machines with no problems.

BUGS & TIPS

New PLP I driver. While GCC Technologies Inc.'s Personal LaserPrinter II looks like it will be the new star among QuickDraw printers, GCC doesn't intend to forsake the original PLP. The PLP II sports a new engine and sleek shape, but it uses the same printing process and printer driver as the PLP I.

Version 2.31 of the PLP driver, which ships with the PLP II, is now available to PLP I owners. Its primary benefit is compatibility with Adobe Systems Inc.'s Adobe Type Manager.

The update package is priced at $29 and includes a PLP manual, the driver and the Bitstream outline fonts. For those who purchased either a PLP I or Version 2.2 of the driver after Sept. 15, 1989, the upgrade is free.

TMON update. ICOM Simulations Inc. has released Version 2.8.4 of its TMON debugger software for the Mac. Primarily intended to assure compatibility with the Mac Portable and IIci, TMON 2.8.4 includes an external command for HyperCard that switches the user to the debugger.

To receive the update, send $15, along with your original TMON disk, to ICOM Simulations.

RecordHolder Plus bug. You'll find a bug in Version 3.1 of Software Discoveries Inc.'s RecordHolder Plus database program if you are creating a new database and are working in the Structure window. If you click anywhere outside the window, you will be able to continue to work, but when you finish your database setup, you will get a system error.

The company is aware of the problem and is working on it. Until then, the only solution is not to click outside the Structure window until you have finished your setup.

REFERENCE

GCC Technologies Inc., 550 Winter St., Waltham, Mass. 02154; (617) 890-0880; (800) 422-7777.

ICOM Simulations Inc., 648 S. Wheeling Road, Wheeling, Ill. 60090; (708) 520-4440.

We welcome comments at MacWEEK, 4 Cambridge Center, Third Floor, Cambridge, Mass. 02142; (617) 497-2600; (617)497-2646 (fax). Electronic Mail: CompuServe: (Ric Ford) 75410,2612, (Rick LePage) 76117,1765; GEnie, America Online, Delphi, PAN: MACWEEKBOS; Connect: RICKLEPAGE, RICFORD; AppleLink: (address to "MacInTouch" in Subject): MACWEEK; Internet: MACWEEKBOSTON@MCIMAIL.COM; MCI Mail: MACWEEKBOSTON.

GPIB troubleshooting

We had originally planned to review slide scanners from Eikonix Corp. of Bedford, Mass., and Howtek Inc. of Hudson, N.H., in addition to the machines from Barneyscan Corp. and Nikon Inc., but we were unable to obtain working units from those manufacturers in time to meet our deadlines. This is not necessarily a reflection on those manufacturers' products. Rather, it illustrates the difficulties of troubleshooting devices that connect to the Macintosh via the GPIB interface, a NuBus board that is commonly used with slide scanners, film recorders, and some color printers and scanners.

The Mac GPIB (General Purpose Interface Bus) interface consists of a NuBus board, a cable, System software and an installer application. It has become something of a standard interface for slide scanners, and when it works, it works well. Still, it is far from user friendly and is complicated to troubleshoot.

First, we had to determine that the board itself was installed correctly and was functioning. There's a test program to check the board itself, but you must unplug any devices from the board first. Next, we checked cables by swapping them. Then, we checked for Startup document (INIT) conflicts by removing all unnecessary INITs from the System folder. Finally, we checked the GPIB setup using the installer application.

The installer application makes an attempt at following the Mac user interface with menus and dialog boxes, but the dialog boxes contain cryptic phrases like "Assert REN when SC" or "Terminate EOS at last write of byte." The error messages are even worse. For example, "unable to _ibclr _sp gpib scanner GPIB TIMEOUT error: (EASC) address status change during I/O command." The technical support personnel from the companies involved were invariably courteous and helpful, but their advice always came down to "try another scanner with the board and see if it works" or "try the scanner with another board and see if it works." Naturally, this is problematical for those without access to another scanner.

For the record, here is a list of the scanners we tested and their track records.

Barneyscan Slide Scanner: This one worked the first time.

Nikon LS-3500: The first unit we tested had a problem with keeping the red, green and blue scans in registration. The second unit performed according to specifications.

Howtek Scanmaster 35: The first unit we tested showed pronounced scan lines and had problems with color fidelity. The replacement unit failed to make contact with the Macintosh.

Eikonix 1435: The unit we tested failed to make contact with the Mac despite the heroic efforts of the technical support people at Pre-Press Technologies Inc. of Encinitas, Calif., which makes the SpectreScan software for the Eikonix scanner.

This makes for a total of two functioning units out of the six we tested. The sample of scanners that passed through our hands is too small to derive any kind of statistically significant data. On the other hand, you should make sure you feel comfortable with technical debugging before purchasing one of these units. —
By Bruce Fraser

Comparison

From previous page

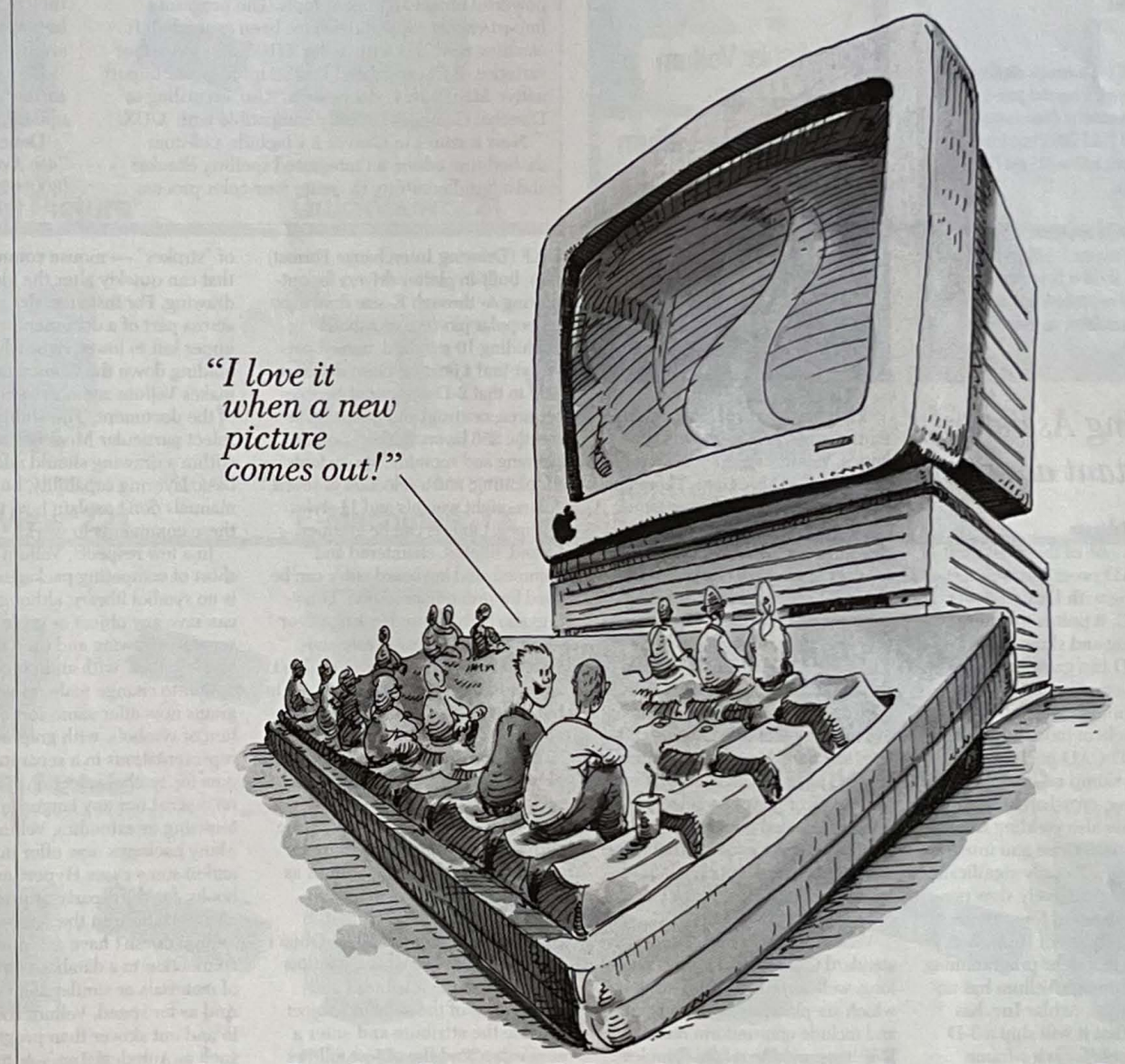
are the raw results of the scanning passes. Having to continually rename the TIFFINT files is a chore, as is throwing away the raw scan files. This defect mars the otherwise seamless performance of the Nikon package.

Conclusions. In our comparison of the two scanners, the first thing we noticed is how much easier the Nikon is to use than the Barneyscan, because it requires neither calibration nor focusing. It's also faster than the Barneyscan when scanning at the same resolution. Choosing a lower resolution yields even better performance. We used two images in comparative testing; one had a subtle range of tones, the other extreme contrasts. Both scanners handled the low-contrast image well, but the Nikon was clearly superior in picking out details in the dark regions of the high-contrast image. Given the relatively small difference in price between the two units, we recommend the Nikon over the Barneyscan, despite the latter's excellent software. □

Product Info

BARNEYSCAN CORP.
Barneyscan Slide Scanner: $9,495
1198 10th St., Berkeley, Calif. 94710;
(415) 524-6648

NIKON INC.,
ELECTRONIC IMAGING DEPARTMENT
Nikon LS-3500: $9,995
(GPIB board not included)
623 Stewart Ave., Garden City, N.Y. 11530;
(516) 222-0200



Catch the latest blockbusters from Apple at Data Preference.

Now you can catch all of Apple's latest hits at Data Preference, Inc. Premiere products include the high performance Macintosh® IIcx. The versatile Macintosh SE/30. Or the entire LaserWriter®II family of products. And much, much more.

Data Preference's supporting cast also brings you great performances with service that includes a toll-free phone number for on-line diagnostics. Plus, our short and long-term rentals, along with operating and finance leases are just the ticket to make it all available.

To find out how Apple can take a starring role in your company's latest production, just call the Data Preference office nearest you.

Authorized Value Added Reseller

DATAPreference
Incorporated

Formerly Leasametric Data Communications, Inc.

Northwest: (800) 343-7368, (415) 574-5797 • Southwest: (800) 638-7854, (818) 708-2669 • Central: (800) 323-4823, (708) 595-2700
Northeast: (800) 241-5841 • Southeast: (800) 241-5841, (404) 925-7980 • London: 011 44 923 897 000

© Data Preference, Inc. 1990. Apple, the Apple logo, Macintosh and LaserWriter are registered trademarks of Apple Computer, Inc.

REVIEWS

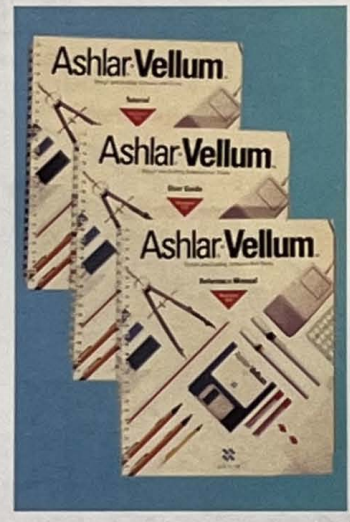
Vellum points the way to the future of CAD

Vellum 1.0

Ashlar Inc.
List price: $995

+ Intelligent and automatic aligning and snapping; integrated parametrics; associative dimensioning with ANSI Y14.5 GD&T; associative detail views; built-in DXF and PICT conversion.

− Slow on some operations, such as zooming; requires 2.5-Mbyte partition on a Mac SE/30 or II; no macro language; no database extensions; no IGES translation; no true symbol library.



Drafting Assistant important advance

By Phillip Robinson

Vellum is one of the most exciting new CAD programs we've ever tested. Along with DesignView on the IBM PC, it points to where CAD is going and shows how today's CAD can grow into a far more supple and helpful tool.

And Vellum isn't just an experimental vehicle of tomorrow; it's a practical 2-D CAD package today that doesn't skimp on basics such as dimensioning, crosshatching and plotting while also yielding intelligent design assistance and integrated parametrics. Its only significant drawbacks are relatively slow performance, a demand for a minimum of 2.5 Mbytes of RAM, and the lack of a macro or programming language. Although Vellum has no 3-D capabilities, Ashlar Inc. has announced that it will ship a 3-D add-on package for wire-frame work by the end of the year.

The basic cake. Why all this enthusiasm? Let's start with the basics: Vellum offers a Mac-standard interface CAD program. There are well-organized pull-down menus, cut-and-paste editing, a choice of dragging or clicking on end points for drawing, and dialog boxes for details. There are scroll boxes for panning, standard laser printer output, the ability to read and write PICT files, Macintosh fonts with conventional style and size controls for text, and icon palettes for choosing tools. Object selection also follows standard Mac drawing practice: You can click on single objects, and Shift-click or marquee-select for groups (selected objects can be set to blink or show as a different color). A Selection Mask option confines the choice to particular layers, colors or object types.

Vellum also offers a full range of standard CAD tools. There is a long, well-sorted list of primitives, which are placed on an icon palette and include non-uniform rational B-splines, used to model complex curves; the ability to read and write DXF (Drawing Interchange Format) files; built-in plotter drivers for outputting A- through E-size drawings on popular plotters; crosshatching (including 10 standard, named patterns); and a floating-point database. Add to that 2-D analysis of perimeter, area, centroid and moments of inertia; 256 layers to show or hide; panning and zooming; stroke fonts for plotting; and a selection of seven colors, eight weights and 11 styles for lines. Objects can be grouped, locked, filleted, chamfered and trimmed, and keyboard entry can be used for numeric precision. Drawings can be measured in English or metric units. You can create construction lines and objects that don't appear in the final drawing but aid in the drawing process.

The icing. Then there are the points where Vellum goes beyond pedestrian CAD, such as its extending the Move, Rotate, Scale and Mirror commands with polar and linear duplication routines as well as its addition of a pop-up menu for quickly switching the active layer. There's an Edit Object command that presents a window with a list of the attributes and dimensions of the selected object. Choose the attribute and enter a new value, and the object follows suit. Vellum also has an unusual set of "strokes" — mouse commands that can quickly alter the view of a drawing. For instance, dragging across part of a document from upper left to lower right while holding down the Command key makes Vellum zoom in on that part of the document. The ability to select particular Models and Sheets within a drawing should add to the basic layering capability, but the manuals don't explain how to put these commands to work.

In a few respects, Vellum falls short of competing packages. There is no symbol library, although you can save any object or group as a separate drawing and then import it as a "symbol" with an immediate option to change scale. Most programs now offer some sort of collection of symbols, with graphic representations in a separate window for symbol selection. There are no macros nor any language for customizing or extending Vellum. Many packages now offer macros, and in some cases HyperCard hooks, for third-party or proprietary customization. In the same vein, Vellum doesn't have any direct connection to a database for bill of materials or similar analysis. And as for speed, Vellum zooms in and out slower than programs such as Autodesk Inc.'s AutoCAD, Claris CAD and Blueprint from Graphsoft Inc. It also shows a slight but noticeable delay, even on a IIcx, when resolving a parametric group or when tracking the cursor to find nearby vertices of interest to the Drafting Assistant.

Despite these drawbacks, there are four features that boost Vellum beyond the crowd in the Macintosh CAD arena. First is the capability to select an area on the drawing for an associated Detail View. This view can have a different scale, and any work done in it or in the main drawing is reflected in the other views. Only dimensions, text and crosshatching are view-dependent.

Next on the list of superior features is Vellum's dimensioning. It starts with a full palette of dimension tools for linear, angular, radial, oblique, perpendicular, diametral, base-line and chain dimensions. Vellum automatically calculates them and places the text, then lets you reposition and format it any way you want. But there's more, especially for mechanical engineers. Vellum follows the ANSI Y14.5 GD&T (Geometric Dimensioning and Tolerancing) standard symbol convention. This means that by using a dialog box you can set Vellum drawings to show the official symbols for such machining dimensions as roundness, profile of

See Vellum, Page 36

Reviews in Brief: CANVAS 2.1

Canvas 2.1

Deneba Software's Canvas is certainly one of the most feature-packed Mac graphics applications around, integrating tools for painting bit-mapped images into a powerful, object-oriented, eight-bit color drawing environment. Deneba just released an update to Canvas, offering many enhancements plus some welcome new features.

Canvas 2.1 allows much greater control over drawing and modifying Bezier curves, as well as more-powerful object alignment tools. The program's import/export capabilities have been expanded: It can now read and write color TIFF files, write four varieties of Encapsulated PostScript files and import native MacDraw II documents. Also, according to Deneba, Canvas 2.1 is fully compatible with A/UX.

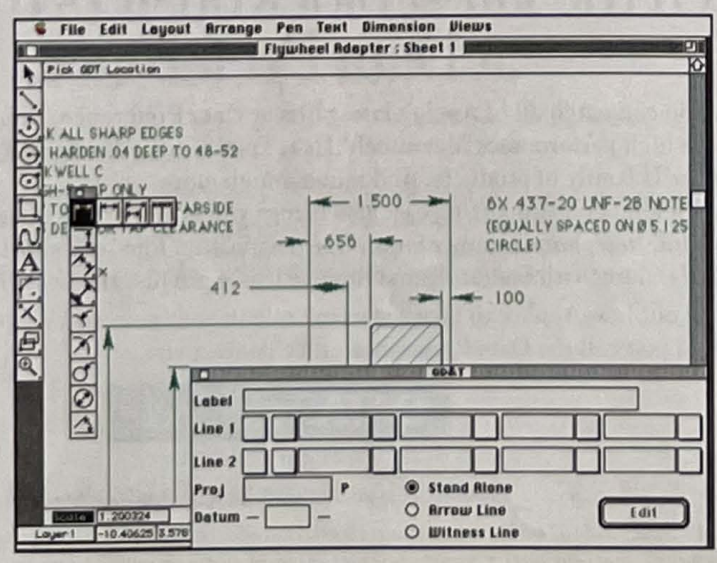
New features in Canvas 2.1 include a custom dashed-line editor, an integrated spelling checker and a bundled utility to create four-color process (CMYK) color separations from Canvas artwork.

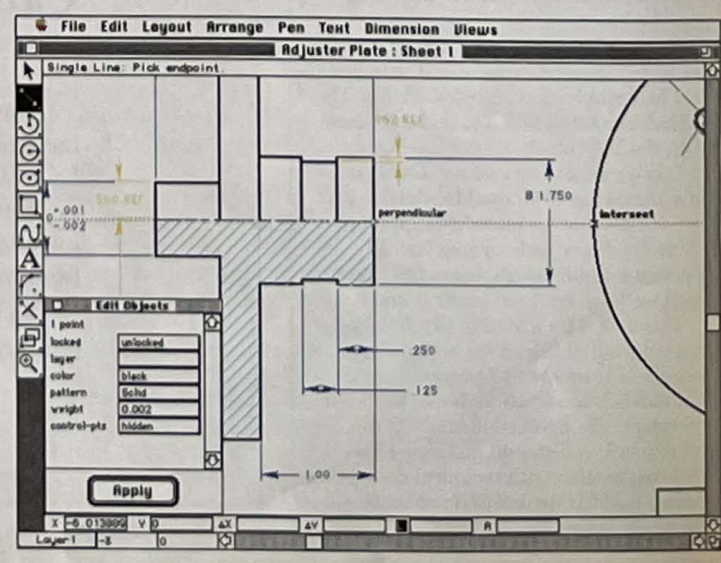
But beyond these major additions to the program, Deneba has built some splendid little touches into Canvas. For instance, you can now edit rotated text directly without having to unrotate it. Redrawing of background windows can be turned on and off, and blank pages are skipped during printing. And, to conserve disk space, Canvas can share its standard and user dictionaries with Deneba's Coach Professional spelling checker.

We can only hope that other publishers will look at these small but significant touches and realize they're the sort of things that define the difference between programs that simply do a lot and ones that are truly powerful.

Canvas 2.1 retails for $299.95. Users who bought earlier versions after Aug. 1, 1989, will receive a free update; the charge for other users is $30.

Deneba Software is located at 3305 N.W. 74th Ave., Miami, Fla. 33122; (305) 594-6965; (800) 622-6827. — *By Dennis Klatzkin*



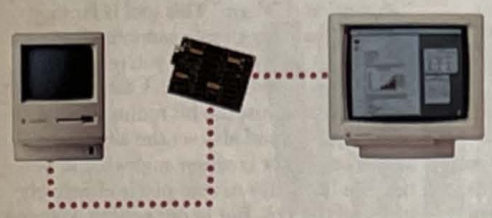


Vellum's complete palette of dimensioning icons and its window for standard GD&T tolerancing symbols (near right) make the program well-suited for mechanical engineering.

The Drafting Assistant desk accessory (far right) automatically notes when the cursor comes near important geometric points on a drawing and draws temporary construction lines between objects to clarify relationships.

More Choice . . .

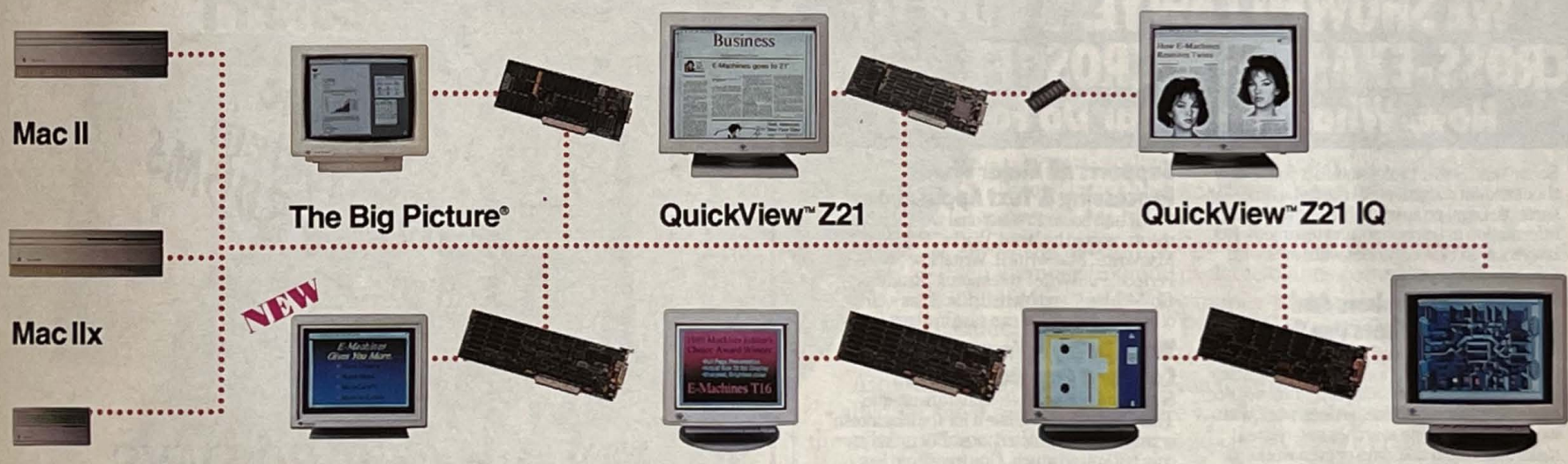
For Every Macintosh



Mac Plus — The Big Picture®

Mac SE — The Big Picture® — QuickView™ Z21

Mac SE/30 — QuickView™ Z21 — E-Machines™ TX — E-Machines™ T19



Mac II
Mac IIx
Mac IIcx-IIci

The Big Picture® — QuickView™ Z21 — QuickView™ Z21 IQ

ColorPage™ 15 — ColorPage™ T16 — E-Machines™ TX — E-Machines™ T19

A Complete Family of
Monochrome, Gray Scale
and Color Display Systems

Find out where to buy
Call (800) 34-GRAPHIC

E-MACHINES
Power to See Your Best

9305 SW Gemini Drive, Beaverton OR, 97005 (503) 646-6699
©1989 E-Machines. E-Machines and ColorPage are trademarks of E-Machines, Inc.

Vellum

From Page 34

line, cylindricity and perpendicularity. Any dimension is associative and automatic, so it will change dynamically as you change the drawing.

Closely related to these excellent dimensioning capabilities is Vellum's integrated parametrics feature. Vellum not only lets you enter numeric values for object dimensions, it also lets you enter variables, which it will then solve to derive an object's actual shape. For instance, you might give Vellum a value for one side of a rectangle and then express another side as a mathematical function of the first side. Vellum can calculate the result and show it on screen.

This feature is helpful for making quick drawings and then molding them into their final shape. It is also a way to put the computer to work in design, incorporating vital equations directly into the drawing instead of using the Mac as simply a high-tech drafting board. Vertical and horizontal lines, tangencies, collinear lines, and concentric circles and arcs can be maintained through the parametric resolution and redrawing processes. Parallel lines and perpendicular lines are not maintained. If you overconstrain or underconstrain an object so that Vellum can't resolve its shape, an error message will appear. Symbols can have parameters that are resolved differently each time they're imported.

Finally, Vellum's most important advance is its Drafting Assistant desk accessory. This DA provides simple but dramatically helpful intelligence as you draw. The DA alerts you to the cursor's position, trailing the cursor point on screen with comments such as "end point," "center," "midpoint," "intersection," "tangent" and "align." This tool is far more valuable than any simple snapping feature. The screen tells you when you're on target, and all you need to do is click the mouse button. You can adjust the hit radius for snapping in pixels, and also set the alignment angles and other creation angles for it. Setting the hit radius to zero pixels effectively turns off the DA. But in our testing, keeping the DA on made many operations faster, from finding intersections with construction lines to identifying 25 percent points along line segments. This is a feature we wish every CAD package offered.

Conclusions. With built-in DXF and PICT translation, parametrics and the Drafting Assistant, Vellum could be a sketching and design tool even in an office that's comfortable with some other Mac CAD package. In that position the slow performance wouldn't be a serious problem. The thorough dimensioning ability and GD&T alongside those other features may seduce mechanical engineers into using Vellum from start to finish.

Its standard Mac interface, comprehensive list of CAD features and Drafting Assistant make Vellum worth a look from almost any Mac CAD user. At the very least it will give you some ideas about what to demand in the next version of the CAD package you use. With a full 3-D object-oriented database behind it, Vellum may soon have other tricks to teach the world of Mac CAD.

Ashlar Inc. is at 1290 Oakmead Parkway, Sunnyvale, Calif. 94086; (408) 746-3900. □

The Professionals in Computer Rentals

PCR PERSONAL COMPUTER RENTALS ®

"The Professionals in Computer Rentals"

IBM • COMPAQ • APPLE • HP LASERS

Daily • Weekly • Monthly or Longer Term Rentals
Local Delivery, Installation, 24 Hr. Service, Pickup, Technical Assistance & Support.

Each Franchise is independently owned & operated. Franchise opportunities available.

NATIONAL RENTAL HOTLINE 1-800-922-8646

LOCAL ONSITE SERVICE ANYWHERE COAST-TO-COAST, FROM THE NATION'S #1 COMPUTER RENTAL NETWORK

WE SHOWED LAWYERS HOW TO CROSS-EXAMINE MICROSOFT® WORD.™
Now, What Can Sonar Do For You?

Sonar™ and Sonar Professional let you review thousands of documents at the same time—in seconds. Legal professionals use it to manage information in transcripts and testimony. But lawyers aren't the only ones who work with text-based information.

Writers, Researchers And Desktop Publishers Use Sonar

Sonar and Sonar Professional are used for everything from organizing information to creating indexes and tables of contents for finished documents. Anyone who does serious work with words, can complete searches and related tasks that would take days or even weeks to do any other way.

Sonar Features:

- Key word or phrase search through a single document, a folder or an entire hard disk
- Displays the text of the document, along with the circled key word or phrase for ease of copying
- Expanding clipboard to continually add copied text
- Boolean/wild card searches
- Automatic creation of an index and table of contents
- Search speeds up to 350 pages per second

Sonar Professional Has All These Features And Adds:

- Display of all words associated with searched key words
- Synonym searches so you can look for ideas, not just words
- User comments that attach to any page of a document
- Dynamic hypertext linking of relationships
- Graphics display
- Search speeds exceeding 10,000 pages per second

Supports All Major Word Processing & Text Applications

Sonar and Sonar Professional work with documents created by Word, Works™, PageMaker™, MacWrite™, MacWrite II, WriteNow™, Word Perfect®, FullWrite Professional™, Ready-Set-Go!™ 4, More™ and More II, Excel™, as well as other programs that can save in a text format.

Want To Try It Yourself? Call For A Free Demo Disk.

Sonar and Sonar Professional are unique. There is nothing else like it for the Macintosh™ or any other microcomputer. But an ad can only tell you so much. Our free demo lets you try it for yourself. There's no obligation and the disk is free. Call and ask for yours: **(804) 739-3200.**

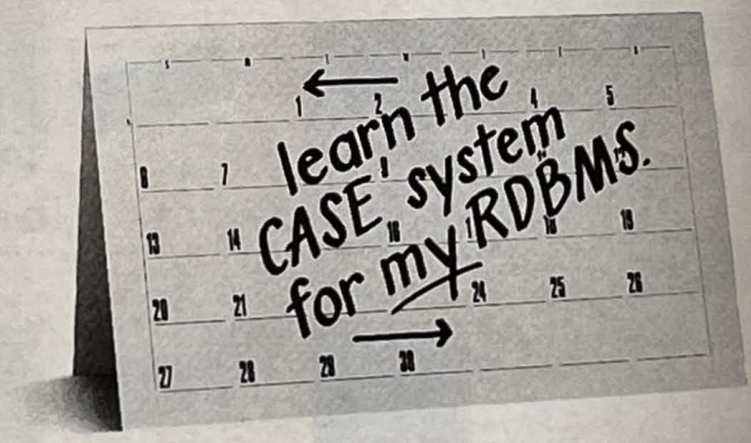
Sonar Professional version 3	Sonar version 5
$795	**$295**

Upgrade to Professional at any time for $500
$6.00 Shipping and handling charge added to all U.S. orders ($16.00 outside U.S.)

(804) 739-3200 (EST)

VIRGINIA SYSTEMS

5509 West Bay Court, Midlothian, VA 23112
All trademarks acknowledged.



YOU'VE GOT 30 DAYS TO PROVE YOU'RE DEFT.
YOU'LL ONLY NEED 60 MINUTES.

Deft supports ORACLE,® INGRES,® SYBASE,® Rdb,® INFORMIX,® and DB2.® For your own FREE copy of our Trial Package, please call (416) 249-2246.*

*Qualified callers will receive a no-obligation, Free trial for 30 days.

DEFT

CASE with A Deft Touch

MEMORY YOU CAN WRITE HOME ABOUT

Buy Technology Works' 4 Meg Memory Upgrade Kit For Just $350; Get FullWrite Professional™ FREE*

Power Up For The '90s. Technology Works memory kits let you upgrade your Mac® from 1 to 4 megabytes for just $87.50 per megabyte. And now Ashton-Tate lets you experience the word processing power of FullWrite Professional 1.0*, FREE with every 4 megabyte purchase! (Just $39 with 2 megabyte purchase.) **More Memory Means More Performance.** Harness the full power of the new memory-intensive programs, and get your Mac ready for System 7.0. Work faster and smarter with the multi-tasking power of MultiFinder—the more memory you have, the more applications you can run at once. Each memory upgrade package comes complete with an installation kit, 30-day money-back guarantee, and full technical support.* **Put FullWrite To The Text.** Designed to take advantage of your new Mac memory, Ashton-Tate's FullWrite Professional word processor has been called the most powerful, intuitive word processing package on the market today. FullWrite features advanced layout, graphic and document updating capabilities, and a sophisticated, easy-to-use environment. Technology Works memory and FullWrite word processor; the deal of the '90s that's worth writing home about.

ASHTON·TATE®
&
TechnologyWORKS

*Limited Offer! One FREE copy of FullWrite Professional™ 1.0 with each 4 meg purchase, or $39 per copy with each 2 meg purchase. FullWrite 1.1 upgrade service FREE with returned registration card. Software is not for resale. Offer valid only for individual & corporate direct purchases—no dealers, resellers or distributors please. For technical support, call 1-800-622-2210. Offer valid through March 31, 1990—or while supplies last.

Technology Works, 4030 Braker Lane West, Austin, Texas 78759
Ashton-Tate, 20101 Hamilton Ave., Torrance, CA 90509

CALL 1-800-688-7466

M.O.

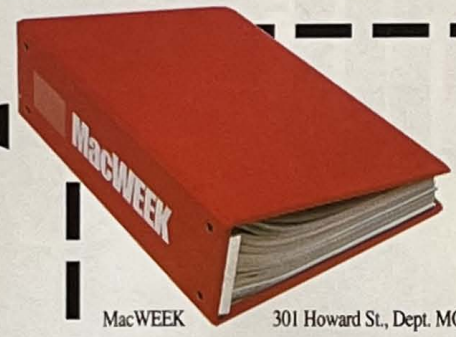
MAIL ORDER SECTION
FOR VOLUME BUYERS

38

This Space Available

Phone your MacWEEK rep for details.

Order Yours Today



Keep your *MacWEEK* issues within reach. Store them in these handsome, durable red vinyl binders. Each custom binder has a clear outside pocket for volume/date information and holds up to 20 issues. Now only $15.00 per binder, plus $5.00 postage and handling.* Offer good only while supplies last. No purchase orders please. *Canada add $5.00.

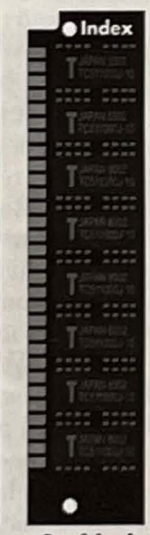
MacWEEK 301 Howard St., Dept. MO, San Francisco, CA 94105-9742

Please send me_____MacWEEK binders at $15.00 each, plus $5.00 postage and handling. Check or money order enclosed for $_____
Allow 4-6 weeks for delivery. Canada, add $5.00.

Charge my: ❑ AmEx ❑ Visa ❑ MC
Card #_____ Exp. Date_____
Name_____
Company_____
Address_____
City_____ State_____ Zip_____

Offer limited to Canadian and U.S. addresses only.

MacTel
Technology Corp.



INDEX SIMMs

$72

1Mb Surface Mount, Low Profile

- 80ns or "faster"
- Gold Contacts and Traces
- Lifetime Warranty

DIP SIMMs available on request

4Mb Surface Mount • 80ns • $599

" It's HERE! Fax or Call for our complete catalog."

Quantum	3.5" hard drives with 12 ms!	
Capacity (Mb)	Internal: cx,ci,II,IIx,SE,SE30	External
105	→ $685 ←	$825
40	$385	$525
Conner	3.5" hard drives with 25 ms!	
100	$639	$769
CDC	5.25" hard drives with 16 ms access times!	
300	$1575 *	$1725
600	$2099 *	$2250

Please specify type of Mac when ordering! Internal drives include: hard - software, cables and installation instructions. External drives come in attractive metal cases with external SCSI ID switches. Quantum drives carry a two year warranty. All other drives carry a one year warranty.
* Internal only for MacII & IIx.

Syquest Removable Cartridge $75

"ORDERS ONLY"
1 800 950–8411
Visa • Master Charge • COD • Corporate POs

MacTel Net $18
100% PhoneNet Plus® compatible

MacTel Technology 3007 N. Lamar Austin TX 78705 Tel: (512) 451-2600 Fax: (512) 451-3323 Tech Support: (512)458-2222
AppleLink: CH0108 MacNet: MACTEL Australia: 800 125-880 U. K. : 0800 89-1428 Europe: (0041) 46-054020

Seagate
1 Year Warranty
20 Meg $389
30 Meg $439
45 Meg $499

Quantum
2 Year Warranty
Software Selectable SCSI ID
40 Meg $559
80 Meg $769
100 Meg $859

- Tested and Formatted - Ready To "Plug-In and Run"
- Complete With Cables, Manual, and *HD Prepare* - Utilities With True Partitioning

30-Day Money-Back Guarantee

Corporate Purchase Orders Invited

CAI 800-622-3384
10606 BALTIMORE AVENUE, BELTSVILLE, MD 20705
SHIPPING EXTRA

VISA MasterCard
NO SURCHARGE

Get a FREE Subscription to MacWEEK

Applicants who qualify will receive a complimentary subscription to MacWEEK. All questions must be answered, including those which request specific numbers, to be eligible for qualification. Incomplete forms cannot be processed. The publisher reserves the right to limit the number of free subscriptions. Remember: sign and date this form before returning.

•Please start/continue my FREE subscription to MacWEEK.
☐ 01. Yes ☐ 02. No

AACA

1 Your company's primary business activity AT THIS location (check one only):

Non-Computer Related
- ☐ 01. Aerospace
- ☐ 02. Architecture, Engineering
- ☐ 03. Research and Development
- ☐ 04. Graphic Arts
- ☐ 05. Communications: Publishing, Advertising, Public Relations, Promotion
- ☐ 06. Government: Federal
- ☐ 07. Government: Non-Federal
- ☐ 08. Manufacturing
- ☐ 09. Education
- ☐ 10. Finance: Banking, Accounting, Insurance, Real Estate
- ☐ 11. Health, Medical, Legal
- ☐ 12. Retail, Wholesale, Distribution
- ☐ 13. Agriculture, Mining, Construction, Oil, Transportation, Utilities

Computer Related
- ☐ 20. VAR/VAD
- ☐ 21. Retailer/Distributor
- ☐ 22. Systems House/Data Processing Service
- ☐ 23. Manufacturer (Computers, Software, Peripherals)
- ☐ 24. Computer Consultant
- ☐ 99. Other Businesses & Services (please specify) _____

2 Your Professional Title (check one only):
- ☐ A. Chairman/President/Owner/Partner
- ☐ B. VP/Controller/Treasurer
- ☐ C. General Manager/Director
- ☐ D. Micro Manager/Specialist/Coordinator
- ☐ E. Project Manager
- ☐ F. Art Director/Graphic Designer/Artist/Illustrator
- ☐ G. Manager/Supervisor (not listed above)
- ☐ H. Architect/Engineer
- ☐ I. Systems Analyst/Programmer
- ☐ J. Consultant/Advisor
- ☐ K. Scientist
- ☐ L. Educator
- ☐ M. Editor/Writer
- ☐ N. Professional (Doctor, Lawyer, etc.)
- ☐ O. Accountant
- ☐ P. Representative
- ☐ Z. Other (please specify) _____

3 Your department/function at this location (check one only):
- ☐ A. Engineering/Systems Engineering
- ☐ B. Research & Development
- ☐ C. Communications/Publishing/Public Relations
- ☐ D. Art/Creative Design
- ☐ E. MIS/DP/Information Systems
- ☐ F. Manufacturing/Operations/Production
- ☐ G. Sales/Marketing
- ☐ H. Administration/Management/Personnel
- ☐ I. Accounting/Finance
- ☐ J. Education/Training
- ☐ K. Science
- ☐ L. Consulting
- ☐ Z. Other (please specify) _____

4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this location?
☐ Yes ☐ No
(Write in accurate quantity for all that apply)

		Currently Owned (Quantity)	Plan to Purchase (0-12 Months) (Quantity)
Macintosh IIcx/Macintosh IIx	1		
Macintosh IIci	2		
Macintosh II	3		
Macintosh SE/30	4		
Macintosh SE	5		
Macintosh Portable	6		
Macintosh Plus	7		
Macintosh (Other)	8		
IBM/Compatible Micro	9		
Workstation (e.g. Apollo, Sun)	10		

5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year (answer one only):
- ☐ A. Retailer: sold per year _____ (specify quantity)
- ☐ B. Reseller: resold per year _____ (specify quantity)
- ☐ C. Consultant: purchased by your clients through your firm's recommendations per year _____ (specify quantity)
- ☐ D. Not Applicable

Required: Company name and company street address must be written below or applications cannot be processed. *Please print.*

First Name | Last Name

Title | Business Telephone

Company Name

Division | MS

Street Address (Where you work) P.O. boxes not accepted on this line.

City | State | Zip

Optional: Enter home address below ONLY IF YOUR COMPANY WILL NOT ACCEPT DELIVERY. (Company information is still required.)

Post Office Box or Street Address

City | State | Zip

6 Please check the Mainframe(s) or Minicomputer(s) at your location (check all that apply):
☐ 01. VAX ☐ 02. IBM ☐ 03. Other ☐ 09. None

7 Do you purchase, recommend, specify or approve any of the Macintosh/Compatible products listed below?
☐ Yes (If yes, please check all that apply) ☐ No

Computers
- ☐ 01. Macintoshes
- ☐ 02. Workstations
- ☐ 03. Minis, Mainframes

Connectivity
- ☐ 10. Local Area Networks
- ☐ 11. Modems
- ☐ 12. Micro/Mini/Mainframe Links
- ☐ 13. Communications Software

Peripheral Equipment
- ☐ 20. Laser Printers
- ☐ 21. Color Printers
- ☐ 22. Color Monitors
- ☐ 23. Hard Disks
- ☐ 24. Backup Systems
- ☐ 25. Plotter, Charting Devices
- ☐ 26. Scanners

Add-in Boards
- ☐ 40. Memory Boards
- ☐ 41. Graphic Boards
- ☐ 42. MS DOS Boards
- ☐ 43. Ethernet Boards

Software
- ☐ 50. CAD/CAM
- ☐ 51. Graphics
- ☐ 52. Desktop Publishing
- ☐ 53. Desktop Presentation
- ☐ 54. Database
- ☐ 55. Programming
- ☐ 56. Accounting, Payroll
- ☐ 57. Spreadsheets
- ☐ 58. Music
- ☐ 59. Project Management
- ☐ 60. Word Processing
- ☐ 61. Utilities

8 If you help purchase, specify, recommend or approve Macintosh Computers, software or peripherals, for how many MACs do you have this involvement over the course of one year?
- ☐ 01. 500 +
- ☐ 02. 100-499
- ☐ 03. 50-99
- ☐ 04. 20-49
- ☐ 05. 10-19
- ☐ 06. 4-9
- ☐ 07. 1-3
- ☐ 09. None

9 Please indicate the communications capabilities that the Macintoshes at your location have (check all that apply):
- ☐ 01. Local Area Network
- ☐ 02. Communicate with corporate workstations, mini or mainframe computers
- ☐ 03. Communicate with remote mini or mainframe computers
- ☐ 04. Communicate via modem
- ☐ 05. Voice/Data
- ☐ 09. Other (please specify) _____

10 Indicate how many employees there are in your entire company (check one only):
☐ 01. 1000 or more ☐ 02. 100-999 ☐ 03. Under 100

11 Indicate an additional individual at this location who might qualify for a FREE subscription to MacWEEK:

Name _____

Title _____ Dept _____

•

Your Signature _____

Title _____ Date ____/____/____

PLEASE BE SURE THAT ALL QUESTIONS ARE ANSWERED.

FOLD HERE FOR MAILING DO NOT STAPLE—TAPE HERE

Place stamp here. Post Office will not deliver without postage.

MacWEEK

P.O. Box 5806
Cherry Hill, N.J. 08034-9641

FOLD HERE FOR MAILING DO NOT STAPLE—TAPE HERE

Backup your Mac for just $795.

There's no faster, safer method to backup a Mac than cartridge tape. And now, the Braemar SX40 makes it affordable.

Braemar is a leading manufacturer of taped-based systems for the OEM marketplace. In fact, we make many of the drives sold by our competition. So obviously we can back our claim. And build it for less.

- 60-mbyte capacity per cartridge.
- Unlimited size backup using multiple cartridges.
- Low cost per mbyte.
- Ultra quiet operation.
- Uses Mac interface.

To order the system that backs you up, call today 1-800-328-2719.
(redemption certificates invalid with $795 price. Offer expires February 28, 1990.)

Braemar Corporation
11400 Rupp Dr.
Burnsville, Minn. 55337
(800) 328-2719
(612) 890-5135
Fax: (612) 890-0791

940,000,000 Bytes!

940,000,000 bytes of permanent, fast and removable data storage on the Corel PRO 940 optical disk drive.

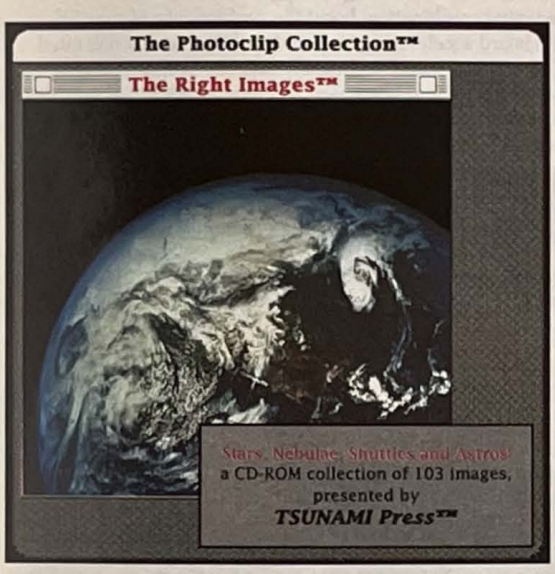
Corel's PRO drive – Permanent, read/write optical – combines the speed of hard drives with the permanence and security of optical drive technology. With a PRO 940 attached to your Macintosh, you should never lose another file again! And because the PRO drive's inexpensive 940-Mbyte data cartridges are fully removable, they can easily be stored overnight for safety, and traded back and forth among users of the same files.

Corel PRO 940 only $3,845. (Including interface software and cabling! Shipping and duty extra.)

"Outstanding value on the Macintosh." – *BYTE Magazine, October 1989*

Corel Systems Corp.
Advanced Technology Div.
1600 Carling Ave.
Ottawa, Ontario
Canada K1Z 8R7
(613) 728-8200
Fax: (613) 728-9790

The Right Images CD-ROM



- The Right Images CD-ROM is Volume 1 of the Photoclip Collection of color photographic Clip Art on CD-ROM.
- This first addition 103 images for color desktop publishing, slides and presentations. Each image is in PICT2 format with three versions: 24-bit color, 8-bit color and 8-bit grey.
- Subjects portrayed in stunning color include Stars, Galaxies, the Earth, Planets, Shuttle Launches and Landings, Spacewalks and others.
- Available now!
- Visa and MasterCard Ok.
- Call for information.
- Dealer inquiries invited.
- $249.95 plus shipping.

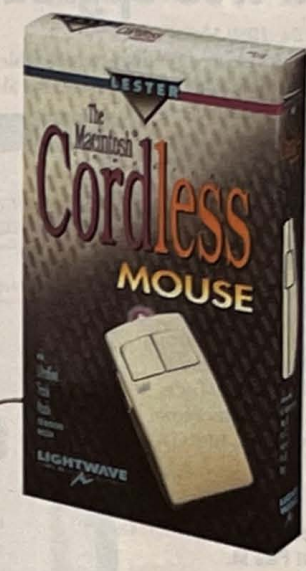
TSUNAMI Press, 275 Route 18, East Brunswick, N.J. 08816
(800) 448-9815, (201) 613-0509, Fax: (201) 238-3053

Where's the cord?

If your mouse cable has ever snagged during a critical move, or if you've run out of cord just when you needed it most, Lester, The Cordless Mouse is for you.

"Lester has a really good feel. It tracks perfectly and is very accurate" said Clement Mok, ex-Apple Creative Director and principal of his own design firm. "UltraFine mode is great for fine detail, and the five year warranty screams about quality."

Compatible with the full Macintosh series, Lester carries a $149.99 suggested retail.



LightWave Technologies, Inc., Box 599, Mundelein, Ill. 60060, (708) 362-6555, Fax: (708) 816-1189

MacWEEK back issues

Complete your collection of MacWEEK magazines. Issues available for $5 each.

To order by phone with Visa or MasterCard, call (609) 428-5000.

Send check or money order to:

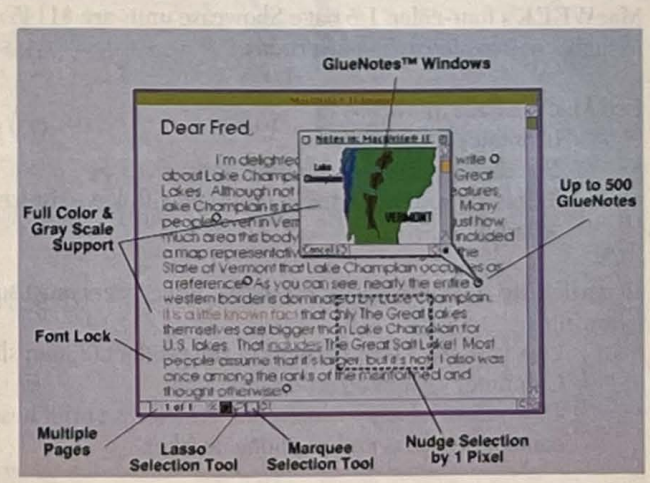
BFG
20 Brace Rd.
Cherry Hill, NJ 08034

Share your work!

SuperGlue II with GlueNotes creates an electronic printout of almost any document, which can be viewed and annotated without the original application.

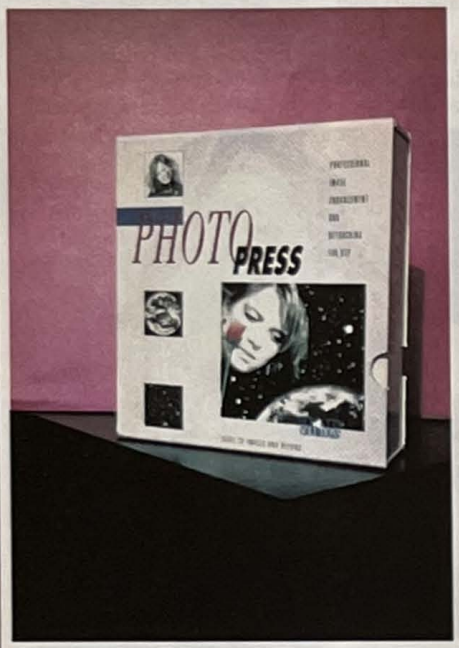
SuperGlue II is the industry standard for the sharing of Mac images. GlueNotes add an extra level of communications power with the electronic equivalent of Post-it Notes that you attach to a Glue file. SuperGlue II also lets you convert text documents into PICT files for creating slides with slide makers.

- Site licenses are available. Order today from your dealer or directly from:



Solutions Inc.
30 Commerce St.
Williston, Vt. 05495
(802) 865-9220

Now that you're scanning, PhotoPress



PhotoPress is a complete DTP grayscale and color image enhancement/retouching package. Its image processing, colorization, and tinting features give the publishing professional more freedom to express his or her ideas.

Unlike other image enhancement packages, PhotoPress pays particular attention to the tools required for production processing and image reproduction.

- Endless grayscale enhancements
- Unique colorization and tinting effects
- Painting tools-color and grayscale
- Multiple windows - seamless cutting and pasting
- Rotate, flip, reduce, crop or enlarge all or part of an image
- Superimposition, shadowing, and other translucent effects
- And much, much more...

Now shipping! Special introductory price $249. Call now for your new freedom in image publishing.

Blue Solutions, Inc.
2965 Hillcrest Dr., Suite 303
Thousand Oaks, Calif. 91362, (805) 371-4521

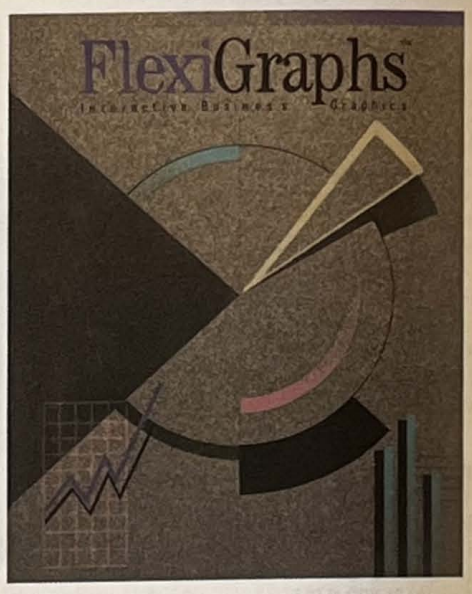
Draw your own conclusions!

Almost every spreadsheet can create graphs. Here are the first graphs that can create a spreadsheet!

FlexiGraphs is a new, visual approach to making budgets, forecasts, and projections! Dragging the mouse, you produce numbers by drawing. You choose from a palette of useful tools, including a pencil, lines, arcs, s-curves, step functions and more. When you draw, FlexiGraphs instantly produces the numbers you need in its tables. All without typing!

FlexiGraphs, including FlexiLine, FlexiPie, FlexiBar and FlexiSpread, is a stand-alone program, with capabilities that enhance any spreadsheet or graphics package.

Special introductory price $149. Call 1-800-366-6045 to order your copy of FlexiGraphs. And find out how easy drawing your own conclusions can be!



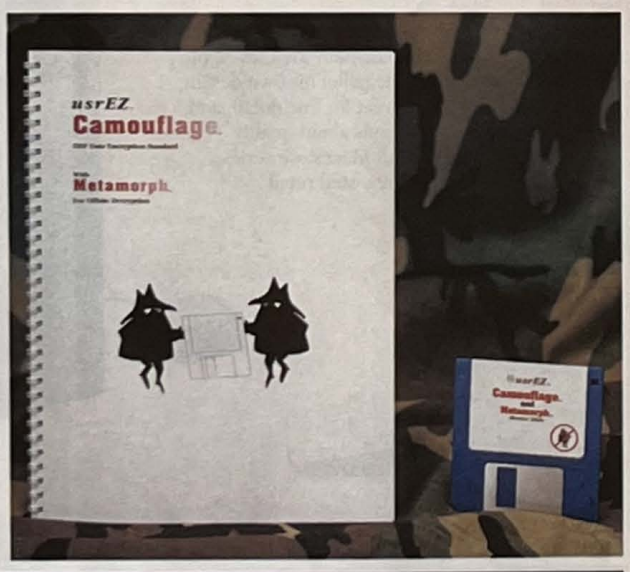
Tree Star
1802 Hill Side Rd.
Santa Barbara, Calif. 93101
(800) 366-6045, (805) 682-4096

Risk free upgrade $99.

October 24, 1989 MacWEEK:
"– Only four released products were stable and competitive. –we preferred Camouflage because it's more flexible and more secure –. It's also faster."

So why are you using a more cumbersome, less secure protection product?

Send us your commercially available software security product and $99. We'll send you the number one file encryption system, Camouflage (retail $349). If not fully satisfied, return in 30 days for a full refund, similar upgrading of site licenses. Only direct from usrEZ Software, Inc.



usrEZ Software, Inc.
1206 East Pike St.
Suite 588
Seattle, Wash. 98122
(206) 672-5387
Fax: (206) 778-7146

Affordable premium displays $1,550

Southeast Computer brokers has the winning combination: boost the performance of your SE up to 400 percent with the Nemonix single board accelerator/video card and the number one rated Ikegami 20 inch monitor for your SE. Use the top rated, technically superior Ikegami monitor and get the performance your applications demand. The single board accelerator/video card provides higher reliability, easier installation, and small overall sizing for optimal integration with your SE. For less demanding applications, an unaccelerated Ikegami display system is available for $1,145.

A factory lifetime warranty is standard for the video or video/accelerator boards.

- Top rated monochrome
- Active full feature software
- Superior combined performance/flexibility
- Lifetime warranty

Southeast Computer
3750 Hacienda Blvd.
Ft. Lauderdale, Fla. 33314
(305) 797-0144

Show and sell in MacWEEK's showcase

An exceptional way to make the most of an advertising budget, MacWEEK's four-color, 1/6 page Showcase units are $1145 each ordered in flights of two alternating insertions.

Use MacWEEK's Showcase to:

- Introduce new products,
- Test direct-response channels, and
- Reinforce your advertising message with low-cost frequency schedule.

To participate in MacWEEK's Showcase, advertisers must submit the following:

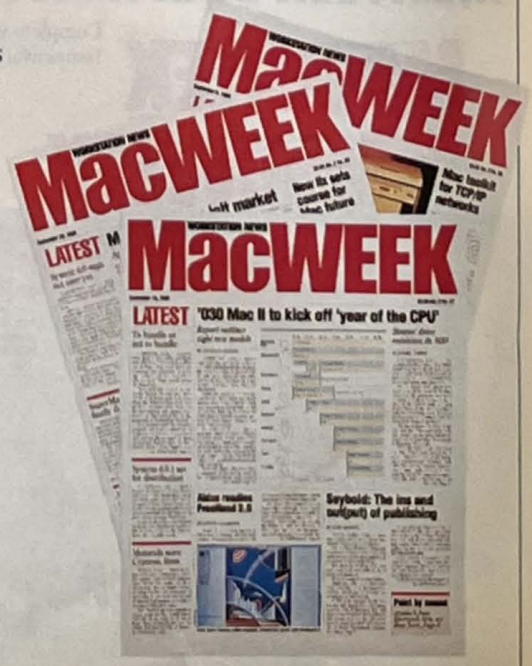
- One four-color transparency of the product (35mm slide is ok), or
- Computer generated art on disk, plus
- 75 words of ad copy which should include a brief headline, contact address and/or phone number.

Copy will be edited by MacWEEK if length exceeds 75 words. Each Showcase unit features one photograph or piece of artwork. MacWEEK will choose between photographs if more than one is submitted.

Materials must be received three weeks before issue date.
First-time advertisers must submit full payment with materials.

Showcase units are non-commissionable. Frequency discounts do not apply. Showcase units must be ordered or renewed in flights of two insertions. For further information, contact your local MacWEEK sales representative at:

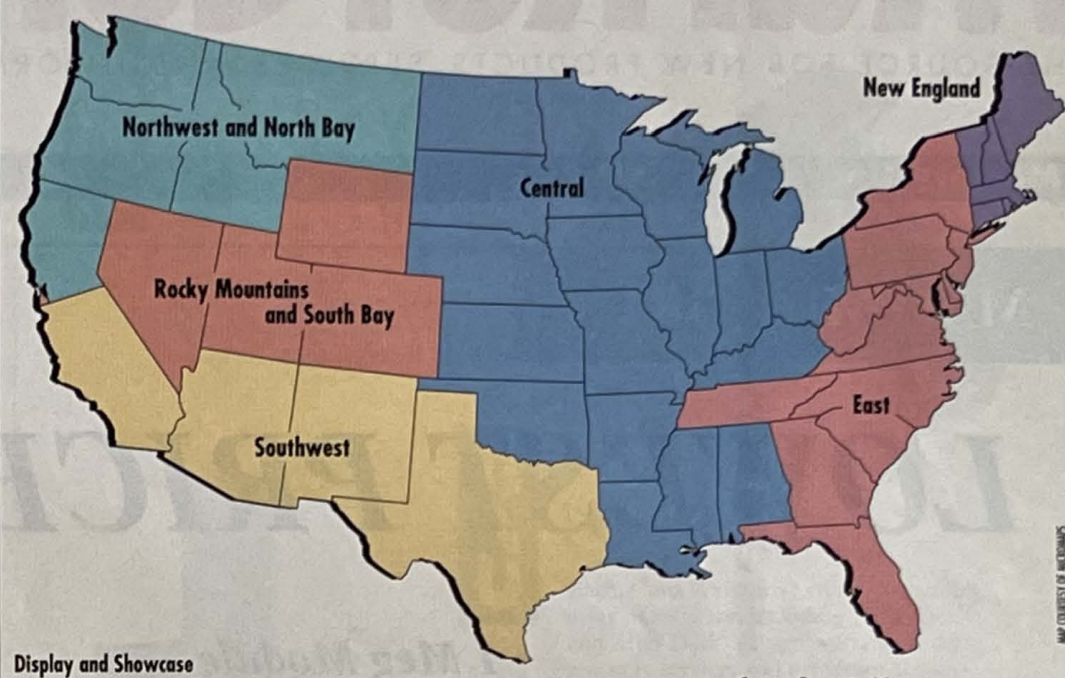
MacWEEK
301 Howard Street 15th Floor
San Francisco, Calif. 94105
(415) 243-3500



Coming up in MacWEEK

Cover date		Ad close
Feb. 6	Scanners	Jan. 26
Feb.13	Gateways, Monitors	Feb. 2
Feb. 20	Portable software	Feb. 9
Feb.27	GA	Feb. 16
Mar. 6	GA, E-mail	Feb. 23
Mar. 13	CAD	Mar. 2
Mar. 20	MacWEEK 200, Printers	Mar. 9
Mar. 27	GA	Mar. 16
April 3	NeXT, Modems	Mar. 23

MacWEEK sales offices



Display and Showcase

Rocky Mountain and South Bay

Nancy Carter
Western Ad Manager
(415) 243-3590

Carla Daiss
Regional Sales Manager
(415) 243-3545

Northwest and North Bay

Jeff Cohen
Regional Sales Manager
(415) 243-3511

Kathy Kottenbach
Account Executive
(415) 243-3565

Southwest

Michael Lamattina
Regional Sales Manager
(213) 387-2100

Deborah Tarantino
Account Executive
(415) 243-3535

Central

Jane Fitzwilliam
Regional Sales Manager
(312) 346-2600

Jo-Ann Sturtridge
Account Executive
(415) 243-3575

New England

Peter Stangel
Regional Sales Manager
(617) 497-2641

Jo-Ann Sturtridge
Account Executive
(415) 243-3575

East

Michele Lipstein
Regional Sales Manager
(212) 503-4432

Jo-Ann Sturtridge
Account Executive
(415) 243-3575

Career Opportunities

(800) 825-4ADS

Cathy Edwards
Group Sales &
Marketing Director

Paul Forsey
National Accounts Manager
(212) 503-5173

Chris Langenderfer
Account Manager
(212) 503-5162

Steve Russell
District Sales Representative
(212) 503-5162

Classified

(800) 825-4ADS

Mary Jo Nash
Account Representative
(212) 503-5122

Amy C. Loucks
Account Representative
(212) 503-5131

Advertiser index

1st Desk Systems	2	Corel Systems	39	Fifth Generation	8, 9, 10, 11	NEC	16, 17	SuperMac Technology	23
Abaton	50	Data Preference	33	Fujitsu	53	Nutmeg Systems	54	TechnologyWorks	37
Adobe Sytems	24, 25	Data Translation	15	Hayes Microcomputer	28, 29	Oracle Corp.	7	Timeworks	27
Altsys Corp.	20	Deft	36	LightWave Technologies	39	Personal Computer Rentals	36	Tree Star	40
Blue Solutions	40	DPI	18	MacTel	38	Qume Corp.	26	Tsunami	39
Braemar Corp.	39	E-Machines	35	MacWAREHOUSE	30	Shiva Corp.	56	usrEZ Software	40
CalComp	12, 13	Ehman Engineering	4, 5	Mass Microsystems	21	Solutions Inc.	39	Virginia Systems	36
Computer Age	38	Farallon Computing	55	MicroNet Technology	52	Southeast Computer	40		

MarketCenter

THE SOURCE FOR NEW PRODUCTS, SERVICES, AND INFORMATION IN THE MACINTOSH MARKET

MAC MEMORY

LOWEST PRICE !!!

- *1 Meg Module*
- *4 Meg Module*
- *IINT/NTX Module*
- *Laptop Module*
- *"No worry" lifetime warranty*
- *Free installation kits*
- *30 day money back guarantee*
- *Corporate & University POs accepted*
- *All major credit cards accepted*

TechnologyWORKS

4030 Braker Lane West Austin, Texas 78759

(800) 622-2210
PO FAX #: (512) 794-8520
Guaranteed same day shipping

We are a certified Apple developer and a fully integrated sales and manufacturing company. We offer the highest quality product and the best service in the business.

Memory
- Highest Quality
- Surface Mount Construction
- Low Profile
- 100ns, 80ns, & faster
- *Lifetime Warranty*
- *Credit cards, COD*
- *Corp./Govt. POs*

1826-B Kramer Lane
Austin, TX 78758
(512)832-8282
(512)832-1533 FAX

Storage (Internals, externals, removables, and tape units)

Model 40i or 40x (Quantum)
Model 80i or 80x (Quantum)
Model 105i or 105x (Quantum)
Model 45R Removable (Syquest)
Model 60T Tape Drive*
DATadrive™, 1.3GB DAT Archival System*
**Bundled with Retrospect Software*

68851 PMMU
Mac II Video RAM
RasterOps Video Cards
Micron Video Cards
Syquest Cartridges

800-284-0486

Third Wave supplies individuals, resellers, universities, and corporations with the finest in products, service and support. Satisfied customers include NASA, Lockheed, Apple, Microsoft, Cray, and the list goes on... Let us add your name to the list!

Third Wave Computing, Inc.

Call for current prices on all products

Certified Apple Partners. Manufacturers of the highest quality products for your Macintosh.

IN THIS SECTION

42 **Memory Upgrades**
- Boards
- Disk Drives
- Simms

45 **Software**
- Business Management
- Desktop Publishing
- Education
- Financial
- General
- Graphics
- Hyperstack
- Investment

46 **Hardware**
- Bar Coding
- Cables
- General
- Peripherals

47 **Special Services**
- General
- Programming
- Toner Recharging
- Used Equipment

Accessories
CD-ROM
Connectivity
Miscellaneous

Advertising Information

(800) 825-4ADS

One Park Avenue
New York, NY 10016

Mary Jo Nash — 212-503-5122
AL, AR, IA, IL, IN, DE, AZ, CO, NM, LA, MN, MO, MS, NB, ND, OK, SD, TN, TX, AK, GA, UT, ID, CA, Canada, (Zip 93000 + UP)

Amy C. Loucks — 212-503-5131
CT, MA, ME, NH, NJ, NY, OR, MT, MD, DC, KS, HI, NC, SC, FL, VA, WV, WA, WY, MI, NV, OH, KY, VT, PA, Foreign Accounts, CA, (Zip 92999 + Down)

SIMMs

UPGRADES!
512Ke - Plus $295
512K - Plus $625
128K - Plus $695
Mac 64K ROMS $15
256K SIMMs $25

1 Meg SIMMs
$67
Visa & MC okay (add 3%)
- 80ns / 70ns
- Low profile
- Surface mnt
- Brand new
- Lifetime warranty

The Lowest price — Longest warranty
Highest quality

Peripheral Outlet
314 S. Broadway Ada, OK 74820
800-332-6581
405-332-6581 Fax 405-332-9582

---

1 MEG x 8 SIMMS — HIGH QUALITY
$75.00
120-80ns • 5 year warranty • Low Profile • Surface Mount

P.N.Y. ELECTRONICS INC.
210 HADDON AVE. WESTMONT, N.J. 08108
(718) 272-4747 (609) 854-0220

SIMMS . . . Your Way

Resellers
WE BUILD SIMMs...
Control your SIMM pricing
you supply the RAM-
we do the rest!
Call For Pricing

End users
BUY DIRECT & SAVE
One Meg SIMMs in stock
Available immediately
Fits All MACs
Money Back Guarantee
Lifetime Warranty

MICRO ELECTRONIC TECHNOLOGIES, INC. 800-766-SIMM
35 South Street, Hopkinton, MA 01748 FAX: (508) 435-6481

1MB SIMM
$79. or lower
MacWEEK Special!

70 & 80ns • Surface Mount • Low Profile • High Quality 4-Layer Board
4MB SIMMs Available • LaserWriter II NTX SIMMs In Stock
Lifetime Warranty • VISA, MC No Surcharge • Same Day Shipping

SOUTH COAST ELECTRONICS
10920 Wilshire Blvd. Suite 1100
Los Angeles, CA 90024
(213) 208-3260 Fax (213) 208-3282
800•289•8801

Mac II Serial Ports

Mac II NuBus Boards:	
2 Serial Ports	$299
4 Serial Ports	$379
Parallel Interface	$199
Proto*	$279
Extender*	$ 59

*Also available for the SE/30

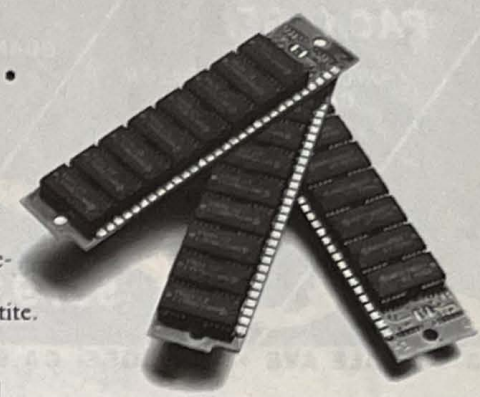
1-800-367-8465
Creative Solutions, Inc.
4701 Randolph Rd. #12 Rockville, MD 20852

SIMM/SIPs
- 1 MEG 80ns AND 100ns.
- 256K 80ns AND 100 ns.
- LOW! LOW PRICES!!!
- WARRANTY ON ALL MODULES

DELTA RESEARCH LABORATORIES
26072 MERIT CIRCLE, SUITE 119
LAGUNA HILLS, CA 92653
(800) 999-1593
(714) 367-0344

Memory . . .

Satisfy memory-hungry applications with Third Wave RAM expansions for Macs, NTX printers, and soon for the coveted Mac Portable. We assure the highest quality surface-mount construction in a full range of speeds to quench that RAM appetite.



Storage . . .

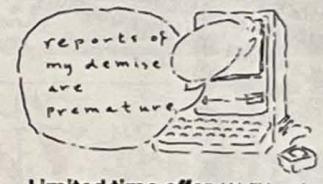
Each Third Wave drive comes with a full array of software, including HyperDex™ and After Dark™, 2 year warranties, data recovery services and professional technical support. We're convinced that a Third Wave storage purchase represents the highest ratio of price vs. performance on the market—and we think you'll agree. Call for details on price and specifications on our full line of internal, external, removable, and DAT models.

Quality, Support, Performance, and Value are standard features of our products.
1-800-284-0486. VISA/MC/AMEX; Corporate, Government and Educational POs accepted.
FREE AfterDark Starter Kit & HyperDex with all drives, HyperDex with all memory.

Third Wave Computing, Inc.™
1826-B Kramer Lane, Austin, Texas 78758
(512)832-8282 • (512)832-1533 FAX

©1989 Third Wave Computing, Inc.

Mac Rescue™ for the Classic Mac



Some "experts" are telling us to trash out the 128K and 512K Macs. Don't do it! Classic Macs are far from moribund. Computer Care developed Mac Rescue, a daughter board that snaps on the enhanced Classic Mac motherboard. No need to fold, spindle or mutilate. Installs in minutes to get Mac Plus functionality.

Mac Rescue has 6 SIMM slots so you can upgrade the Classics to 1 meg, 2 megs, 2.5 megs or 4 megs of RAM.

It also has a SCSI port to breathe even more life into your faithful servant.

Limited time offer: We'll buy back your old fashioned expansion boards when you order Mac Rescue, call for exact price quote.

Ford Centre, Suite 1180, 420 North Fifth St.
Minneapolis, MN 55401
(612) 371-0061 (800) 950-CARE (2273)

Dealer inquiries welcome.
Visa/MC accepted.

Computer Care

Calling about an ad?

Say you saw it in **MacWEEK.**

Do More!
...with SIMMs in your Mac.
Free Opening Kit with order!
Call for pricing on *QUALITY* Memory!
800•542•7466
Macintosh opening kits include a Torx driver, pryor tool and wrist strap Sold Separately for $19.95
Since 1984•Same Day Shipping•Lifetime Warranty•Free Tech Support•Corp/Univ PO's

Turbo Technologies, Inc.™
112 Denton Ave•New Hyde Park•NY•11040 FAX (516)877-7784

SIMMs

Mac II POWER PACKAGE!
- ORCHID ACCELERATOR CARD
- 4 MEGS OF SIMMS

Boosts your Mac II Performance by Up to 30%

$579.95

Some quantities limited. Orders under $100 subject to service charge. Pricing shown cash with order - limited to stock on hand. Call for most ability. Credit card, COD, open account orders slightly higher. All sales final. All returns subject to 15% restocking fee plus shipping charges. 8 AM/6PM PDT

Hard Drives

QUANTUM DRIVES

	INTERNAL	EXTERNAL
• 80 MEGS	$699	$799

CDC DRIVES

	INTERNAL	EXTERNAL
• 148 MEGS	$1099	$1099
• 312 MEGS	$1799	$1799

MacSprint II

Orchid MacSprint II Accelerator Card

$234.95
- Provides 32K of Cache Memory
- Installs easily in five minutes
- Eliminates Mac II wait-states
- In stock for immediate shipment

Macintosh SIMMS

$85.95
- 1 Meg X 8
- 100ns for Mac II only

$99.95
- 1 Meg X 8
- 80ns low profile

All SIMMS are manufactured & tested in the USA to the highest quality standards. Immediate shipment, with LIFETIME WARRANTY to the original purchaser.

Make the call.
1•800•RAMBUYS
8 AM/6 PM PDT

MemoryMasters
AN IMAJON GROUP COMPANY
Primus

2023 O'TOOLE AVE • SAN JOSE, CA 95131 • (408) 954-0300 (INFO) • (408) 954-0700 (FAX) • (800) 726-2897 (ORDERS)

FREE FASTdrive™

RAM Disk software with purchase of 4MB or 1MB Mac SIMMs

Gives you up to 32MB of Mac Memory!
- FASTdrive™ delivers the power of System 7 today.
- Run a full 8MB of Operating System Memory and up to 24MB of RAM Disk.
- FASTdrive™ can be set up as the startup application and is 60 to 120 times faster than your hard drive.

Introducing LaserWriter II NTX SIMMs
- Add up to 12MB to any LaserWriter II NTX.
- Makes printing faster and does not tie up internal memory.
- Get back to applications sooner.

Newer Technology...your most dependable source for Memory Expansion SIMMs.

We stock 256K, 1MB, and 4MB Memory Expansion SIMMs for the Macintosh Plus, SE, SE/30, II, IIx, IIcx and IIci and offer Guaranteed Same Day Shipment!

New 4MB x 8 Composite SIMMs, only slightly larger than 4MB SIMMs using 4Mbit chips, are much more economical. Add up to 32MB to Mac II, IIx, IIcx and IIci. Available for immediate delivery.

New LaserWriter II NTX SIMMs. Great for printing graphics intensive or large text documents. Add up to 12MB for more room to download fonts.

Designers and manufacturers of The Newest Technology in Memory for Macintosh®, Compaq®, IBM® and compatibles.

Call Our Memory Hotline For Prices and Discounts
1-800-678-DRAM (678-3726)

©1990, Newer™ Technology

Newer™ Technology
1117 S. Rock Rd., Suite 4
Wichita, KS 67207
Phone (316) 685-4904
FAX (316) 685-9368

In Canada Contact:
Tallgrass Technologies, Canada, Inc.
1775 Meyerside Drive #1
Mississauga, Ontario L5T 1E2
(416) 673-3244
FAX (416) 673-3926

Newer™ TECHNOLOGY

THE Chip MERCHANT

1 Meg Simms for Macintosh Plus, SE or Mac II
80NS Fast Page **$67.00**

Video Rams for Mac II Color Card
Set of 8 **$39.00**

- 5 year guarantee on manufacturer's defects and chip failure
- Other chips available • All chips new
- Surface mount

Prices subject to drop without notice.

CALL (800) 426-6375 Orders
(619) 268-4774 Information

9285 Chesapeake Dr., Suite L, San Diego, CA 92123
Fax #619 268-0874

SIMM / SIP

1 MEG x 8 as low as
$69.00

High quality • Low prices • 3-Year warranty

Corporate, government & university P.O.'s welcome (O.A.C.)

1-800-366-4433
SHEC@M COMPUTERS
22755 Savi Ranch Pkwy G, Yorba Linda, Ca 92686
Tel: (714) 637-4800 Fax: (714) 637-6293

PMMU

Run virtual memory, System 7.0, A/UX on '020 Mac II's!

68851 $CALL
RC16A MC B36K mask!
Math 68882 . . $225

VISA/MC/DISC/AMEX
Confirmed Govt, Univ, Corp, PO's, COD's

Tercom
206-527-1257 PO/FAX 206-526-0919
6920 Roosevelt Way NE, Suite #190, Seattle, WA 98115

1-800-544-9543
1-800-669-7555

ACCU-SIMMS
High Quality/Low Cost

UPGRADE YOUR MAC II, SE, OR PLUS, WITH OUR LOW PROFILE SIMMS. WE MANUFACTURE AND GUARANTEE THEM FOR LIFE.

1-800-662-SIMM
"Call for current low pricing"

DATA MEMORY SYSTEMS CO.
15 Union St., Lawrence, Ma. 01840
508-683-2325 Fax 508-975-5232
In Business Since 1963

---

1 MEG SIMMS
$69.95
80ns, Fast Page
- Plug-in modules for Mac Plus, SE or Mac II
- Lifetime warranty
- Prices subject to change
- Volume discounts available

(800) 748-5766

MEGABYTE
MEMORY PRODUCTS
7955 Silverton Ave. #1201 San Diego, CA 92126
(619) 536-1116

ADVERTISING INFORMATION

Paul Stafford
Director, Classified Sales

Kathryn J. Cumberlander
Group Advertising Director

Cherita Batiste
Advertising Coordinator

Ann M. Sheridan
Production Coordinator

Mary Jo Nash
(212) 503-5122

Amy C. Loucks
(212) 503-5131

or
(800) 825-4ADS

SIMMs

Apple Memory Upgrades

SIMM $85.00
1MEGX8-10

1MB Upgrade Kit →M0218	
Mac II	89.00
Mac II +	89.00
Mac SE	89.00
Mac IIx/IIcx	89.00
Mac SE/30	89.00
2MB Upgrade Kit →M0219	
Mac II +	202.00
Mac SE	202.00
Mac SE/30	202.00
4MB Upgrade Kit →M2707	
Mac II	408.00
Mac II +	408.00
Mac SE	408.00
Mac IIx/IIcx	408.00
Mac SE/30	408.00
4MB Upgrade Kit →M0292	
Mac II CI	412.00
LaserWriter Upgrade Kits	
1MB M6005	275.00
4MB M6006	785.00

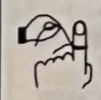
→Denotes Apple Part Number

COD Pricing
Same Day Shipping
Lifetime Warranty

Memory International
(714)588-0488

Software/ Business Mgmt.

SMART ALARMS™
& APPOINTMENT DIARIES™
Professional Office Scheduling System



$99 & up

JAM Software
Box 1345, Pt. Reyes Sta, CA 94956
(415) 663-1041
Int'l. 27A Nowranie St., Summer Hill NSW 2130 AUS
(612) 799-1888

For information or to place your Classified ad in **MacWEEK** call
Amy C. Loucks
(212) 503-5131
or
Mary Jo Nash
212-503-5122
or
800-825-4ADS

SIMM BUYERS TAKE NOTE

Back in November of 1987, only two companies were advertising SIMMS in MacWeek.

PSI WAS ONE OF THEM.

A leading manufacturer of Macintosh peripheral products, PSI is always on the cutting edge of technology. We were the first with our 4 Meg SIMM, the first with an expandable RAM upgrade for the Mac Portable, and an internal Fax/Data modem for the Portable (release due 1st quarter). Other companies may come and go, but PSI is always there, always the innovator, always the leader.

1 Meg SIMMs, 4 Meg SIMMs, NTX SIMMs, Portable Memory

(800) 622-1722 (408) 559-8544

PSI, 2005 Hamilton Avenue, Suite 220, San Jose, CA 95125

Desktop Publishing

PostScript™

Any File, Any Program, Any Font or Graphic. There are NO Limitations with our new Adobe PostScript 4000 Line Slide Recorder. Use your favorite programs, Xpress, Illustrator, Freehand. Call 1-800-359-6381 and we will send you a free sample kit of our $5 2400 DPI Imagesetter output, QMS Color output & PostScript slides. We are located in the New York City Area and service nationwide. 24 hr BBS service is available as well as a 24 hr drop-off.

SLIDES $10

Education

4th DIMENSION™ Training

Basic • Advanced • Custom • Nat'l Schedule • Inhouse

Chicago • Minneapolis • Cincinnati • Atlanta • Tampa
Pittsburgh • Philadelphia • Dallas • Houston • St. Louis

DMD Systems (612) 935-1082

General

Auto-Backup, Auto-Save... While You Work!

SHADOW™ Shadow works automatically in the background. Just set it and forget it!

Automatic Save: Saves your documents at an interval you specify.

Automatic Backup: Shadow periodically copies the documents that have changed since they were last backed up. Shadow can back up onto any floppy, hard or removable disk, network server or Finder-mountable tape drive.

Introductory Price: Only $49.95 (+ $3 S&H)
Orders: 800/999-4649 Info: 617/266-7858
Natural Intelligence, Inc. 86 Richdale Ave., Cambridge, MA 02140

$115.5 Million Dollar Lottery Jackpot CRACKED!!
Using Odds Improvement Multiplication™ US Patent Number #4,712,796

A Harvard University Mathematician has proved that the MacLotto™ Odds Multiplication process **Dramatically Improves** your odds of winning each and every time you use the system!

Lottery Shocker!!!
"It is possible to improve your odds 2,200 times over random selection of winning MILLIONS OF DOLLARS MORE each and every time you use MacLotto™ !"

Pennsylvania Doctor Wins Over $8.2 Million Dollars!!
"My wife and I shared the jackpot...Odds Improvement Multiplication™ gave me 12 prize wins. The Jackpot, three 2nd prizes and 8 third prizes.....I'm writing to inform you that this [system] really works!" - Dr. JW Jr. of Rochester Penna.

MacLotto™- A highly interactive program which works with every possible lottery size. Now and in the future. An advanced graphical interface makes it fast and easy for you to compute, place and verify your bets! No more costly mistakes!

$99 Complete! MC & Visa call our toll FREE number! No COD sorry FAX order! 508-653-9183

U.D. Mathematical Laboratories
18 Main Street Concord, Massachusetts 01742
Dealer Inquiries use FAX number
1 - 800 - PLAY - SIX

General

The Maintenance Authority™
Facility Management Software For the rest of us...

- Work Orders
- Stockroom Control
- Graphical Interface
- Multi-User
- Planned Maintenance
- Powerful Report Generation
- Warranty tracking
- Capital Expenditure Tracking

Currently in use in Universities, Housing, and Industry

TMA Systems
#17 Oakridge Drive
Maumelle, AR 72118
(501) 851-3864 Demo Available!

FREE 2nd-DAY AIR!! GREAT SERVICE!!

Adobe Illustrator 88	277
Aldus PageMaker 3.02	379
Aldus Persuasion 2.0	329
Claris CAD	579
Datacopy 730GS w/MacLAcc	1299
EMAC 20D External HD 65ms	409
EMAC 40 Deluxe Ext. HD 28ms	527
Hewlett-Packard Deskwriter	844
Informix Wingz 1.1	227
Microsoft Excel 2.2	244
Microsoft Office 1.0	499
Prometheus MacKnow w/2400	139
Prometheus 2400MFAX	229
Rodime Cobra 45 Ext. HD 18ms	779
Silicon Beach SuperPaint 2.0	119
SuperMac PixelPaint Prof. 1.0	408
U.S. Robotics Courier 2400	299
U.S. Robotics HST 9600	599
Floppy Drive Locks	
for Plus, SE, SE/30, II series	17

SIMM's
1 Meg 80ns CMOS
Lifetime Warranty!!
$68 Current as of 1/30/90
Orchid MacSprint II 226

-Mac Portable 40MB HD, 1MB SRAM & Case	$4895
-Mac IIcx, 4MB RAM, & 40MB Quantum HD	$4199
Imagewriter II	$450

VIDEO CARDS

Micron 8-bit color card	369
RasterOps 264-Mac II	679
Relax 8-bit Mac II	389
SuperMac ColorCard24	719

30-Day Money Back Guarantee on hardware
Ask about the MacSystems Performance Guarantee

MAC SYSTEMS
Service on a Silver Platter...
1-800-942-6227
Broadway Plaza Altus, OK. 73521
FAX (405) 477-2329
COD/Corp&Univ P.O.'s

MAC PAC
SONY M/C VISA COD
3.5 DS/DD **53¢EA** | 3.5 H-D 1.44 MEG **$1.50EA**
CALL ROBERTA WIRTEL
PRODUCTS PLUS
1-800-544-3472
3350 SCOTT BLVD • STE: 1903
SANTA CLARA, CA 95054

Graphics

Macintosh Slides Overheads Color Hard Copies

Supported Packages
- Persuasion
- CA Cricket
- More II
- MacDraw II
- PowerPoint
- Ready Set Show
- Canvas
- any PICT II file
- and PC packages

Prices Start at $6.50
24-Hour Service
1-800-232-5411
SlideImagers™
Atlanta, Georgia

Leave your mark on volume buyers through
MacWEEK's MarketCenter.

Graphics

$5 Slides of course they're 4000 line resolution

We've Done It!

- Unsurpassable quality
- True customer service
- Best price anywhere and yes, this includes 24 hour turnaround!

In NY State Call: **212.989.2727**
Outside NY State Call: **800.445.9002**
Nextwave Productions NYC, NY

---

the visual arts 10MB OF POSTSCRIPT ART

introducing Publishers Resource, the first EPSF art collection in the Visual Arts series. Publishers Resource contains 4 distinct styles of art

NAQ near airbrush quality for photo-realistic grey scale images
LINE ART elegant black & white line drawings
LAYOUT ENHANCERS for adding interest to any page
DINGBATZ small informative icons

subjects include **People, Technology, Food & Leisure, Dingbatz, General, Computers and Layout Enhancers**
All images are original and drawn on the Macintosh™ in Adobe Illustrator™

this set retails at $250, to order or for more information contact your dealer or phone/write/fax:
Electronic Pen Limited, 4131 Cimarron Drive, Clarkston, GA30021. ☎(404) 296 8623.

ELECTRONIC PEN VISA

MacRIP®
A software based raster image processor
$145

PostScript® on your LaserJet

MacRIP also supports HP DeskJet, DeskWriter, Apple LaserWriter SC, GCC PLP, ImageWriter, Previews PostScript files on any Mac Screen.
30-Day Money-Back Guarantee
Dealers and VARs wanted!

TeleTypesetting
617-734-9700

Don't ask us what we have, tell us what you need!

People tell us they're tired of buying clip art they don't need, and that they'd rather not use canned templates.

Introducing Custom Clip Art and DTP Templates.

- Logo conversions, nameplates, or mastheads - EPS format
- NO AUTO TRACE used
- NO downloadable fonts required
- Custom templates in PM or RSG complete with graphic elements
- 18+ years experience in the graphic arts industry.

Showker
Graphic Arts & Design
Call (703) 433 - 1527 for info.

Be sure to ask about our huge catalog of Value Added Public Domain™ and our support for the Johnny Appleseed Awards.

Military Art

NEW! Defense graphics library designed for military and industry professionals. Call for FREE brochure. V MC PO's COD.
PAINT • HYPERCARD • PICT • EPSF

817-737-7941
NOVA Cube 1704 Tremont Ft Worth TX 76107

WORDPRO
PostScript, TIFF, PICT, PICT2, VCR
•4000 line resolution/73 fonts
•24-Hour Turnaround
•Color Hard Copies
•Custom Slides Available
$5 SLIDES
Visa, MasterCard, Commercial Accounts
Call Voice: 1•800•842•3860
Call Fax/Modem: 1•607•257•2575

Peripherals

Ricoh 6000/PS Laser $2495

- Adobe Postscript v50.5
- 20% Faster than a IINT
- Same Day Shipping
- 1 Year Warranty, and the First 90 Days is Onsite
- See the Excelent Review in the December MacWorld

MacUpgrades INCORPORATED
4336 Montgomery Ave • Bethesda, Maryland 20814
Call on Scanners, Video...
Mon-Fri: 10-6 Sat: 11-4
Master/Visa Accepted
301-907-0300

PostScript Laser Printers
LIQUIDATION

QMS PS-800II NEW. 8 pages per min., 35 resident fonts scaleable from 4 points, 300 x 300 dpi, 500 sheet capacity, 2 input trays. AppleTalk, serial and parallel interfaces. 2MB memory. Mac & PC software. List: $6,495 **IME Price: $2,595**

FAX Group 3 NEW Savin SX1500 personal FAX machine and copier Flatbed. Groups 3/2, 9600 boud. List: $1,199 **IME Price: $399**

Brother HR-40 Daisy Wheel Printer. (Harris/Lanier label) NEW. 40 cps. Letter quality. Sheet & tractor feeds. Wide carriage. Serial and parallel interfaces (PC & Mac). 2 color printing. List: $995 **IME Price: $299**

PS-800 II

MasterCard/Visa - no surcharge

IME Call (617) 254-1700 FAX (617) 254-0392
International Materials Exchange, Inc.
1340 Soldiers Field Road, Boston, MA 02135 Established 1981

Designer's Templates

Expedite your production time using professionally designed templates. Each set of templates contains 10 individual concepts to choose from. Use the original template or create your own customized version based on one of our designs. These templates are ready for output to laser or Linotype. *Requires Aldus PageMaker 3.0 and FreeHand 2.0 versions or higher.*

Call The Final Page
(214) 783-1470
Use Your MC, VISA or AMEX
F.O.B. Dallas, TX

Newsletters • Brochures • Corporate Identity • $149 Each

MILITARY CLIP ART
ArmyArt•• NavyArt•• AirArt•
913-682-3668 • 800-441-1228
$89.95 each + $4 s/h • Visa/MC
Storm King • 37 Dragoon • Leavenworth KS 66027

Hardware/ Bar Coding

BAR CODE & MAGNETIC STRIPE READERS

- For all Macintosh Computers
- No additional port or program required
- Totally transparent to all software
- Does not affect keyboard operation
- Simple and quick installation
- Also available:
  UPC and 39 print software
  Magnetic card encoder
  SmartCard Encoder/Reader

TPS Electronics
4047 Transport Street
Palo Alto, CA 94303
Telephone: 415-856-6833 FAX: 415-856-3843
Telex: (Graphnet) 371 9097 TPS PLA
1-800-526-5920

105MB Quantum $699!

Quantum 12ms Access	capacity	internal	external
	40mb	$399	$499
	105mb	699	799

Above internal drives fit Mac II/SE/SE30/CX/CI
All include cables, brackets, software, etc.

SyQuest 45 meg Removable **659**** **Teac T-60 Tape 679 w/Retrospect !**
**w/o cartridge • $72.50 per cartridge with drive purchase

Imprimis Wren Drives	capacity	internal	external
	173mb	$1159	$1259
	300mb	1649	1749
	600mb	2295	2425

*Internal

1-800-233-7550 VISA/MC, NO SURCHARGE 9:30am -7pm CST
P.O. Box 32982 • Kansas City, MO 64111 • USA

$3 SLIDES
FROM YOUR MAC FILES!
1-7 day service • $3-10/slide
2000-4000 line resolution • Laserwriter™ Plus fonts
Most presentation packages • **(513) 429-9505** or
MacImage 1-800-223-9505

MAC SALE 1-800-729-7031
Quality Repairs
Buy+Sell Macs
Best Prices
New Mac IIci, Portable, IIcx
Entire Mac Line In Stock
Full One Year Warranty Included Free

Leave your mark on volume buyers through **MacWEEK'sMarketCenter.**

Calling about an ad?
Say you saw it in **MacWEEK**

MacUser

FREE ISSUE/FREE GIFT

NO RISK OFFER FOR MACWEEK READERS

Return this card today to take a free look at MacUser—the big, glossy, monthly magazine devoted to helping you get the most out of your Mac system and software—and reserve your Free MacUser STACK MAGIC DISK! You are under no obligation to subscribe.

YES. Send me my FREE ISSUE. If I want to keep MacUser coming I'll pay just $19.97 and get 11 more fact-filled issues (12 in all) and my STACK MAGIC DISK—FREE! Plus, I'll save 44% OFF the cover price. If not, I'll return your bill marked "cancel," keep the first issue, and owe you nothing.

NAME (please print) 8H300

COMPANY

ADDRESS

CITY STATE ZIP

For MacWEEK Readers
FREE STACK MAGIC DISK

Control your stacks with hundreds of buttons...
Get fabulous true-to-life sound effects...
Superscript with our custom font, and more!

Savings based on annual cover price of $35.40. Regular annual subscription rate is $27. Please allow 30 to 60 days for delivery. Your disk will be shipped upon payment. Add $18 for postage outside the U.S., U.S. currency only.

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 66 BOULDER, CO

POSTAGE WILL BE PAID BY ADDRESSEE

MacUser

P.O. Box 52461
Boulder, Colorado 80321-2461

Peripherals

Quantum Pro Series

(3.5" HALF HEIGHT)

CAPACITY	ACCESS	INTERNAL	EXTERNAL
40MB	12MS	$389	$489
80MB	12MS	$619	$719
105MB	12MS	$689	$789

CONNER PERIPHERALS 3.5" HALF HT.

CAPACITY	ACCESS	INTERNAL	EXTERNAL
100MB	25MS	$649	$749
200 MB	19MS	$995	$1095

MAXTOR 5.25"FULL HT.

345MB	14.5MS	$1595	$1745
645MB	16.5MS	$2595	$2745

SyQuest
44MB - Removable 25MS - $729
(Includes Cartridge)

MISCELLANEOUS

KEYTRONICS Keyboard $119
1MB SIMMS - 70NS ..... CALL
Sony CPD-1304 Monitor With Cable $679
RasterOps 24 Bit Color for the MAC II $689
Orchid MacSprint II $229
150MB Teac Tape Backup ..... CALL
EMAC 2400 Baud Modem W/MNP LVL 5 .. $169

Drives include Software & Mounting Brackets. Corp. & Educ. P.O.'s Accepted
Call (714)768-1490 FAX(714) 768-7307
A DIVISION OF PACIFIC BUSINESS SYSTEMS VISA & MC ACCEPTED
Prices subject to drop! Call For More Information.
NO SURCHARGE ON VISA & MC

ClubMac
7 MUSICK • IRVINE, CA 92718 • (714)768-1490

Quantum ProDrive 40S $ 375
Quantum ProDrive 105S 635
Teac 150MB Tape Backup 699
44MB SyQuest Cartridge 77
USR HST 14.4 Dual Std 999

The Best Products at the Best Prices
Bay Microcomputers
210 Columbus Ave Suite 108, San Francisco, CA 94133
(415) 563-8392
VISA/MC accepted. Advertised products reflect a cash discount.

HWH Microsystems
Hammond, Louisiana
800-673-0586
• CALL FOR FREE CATALOG •

2400 baud external
Zoom Modem
$119
Includes cable, software and shipping
Mac or MS-DOS package available
7 year warranty – made in U.S.A.
call for dealer pricing
M/C & VISA welcome

Mac Parts and Repairs

New Book by Larry Pina/Macmillan Publishers: "Macintosh Repair & Upgrade Secrets" $32.
Flybacks (UL Approved/OEM) $21.
3.9uf/100V/non-pol Capacitors $3.
Reduce the load on your Power Supply/ Low-loss 18 Gauge Replacement Cable $22.
Unused Plus Power Supplies $195.
Plus/SE Power Supply Upgrade/Repair Kits (/Flybacks) $51/$41.
Power Supply Repairs*: $45 + parts
Motherboard Repairs** from: $85 + parts
Now Offering Mac II Repairs
*12/**6 Month Warranty
+72 Hour Turnaround
Visa/Mastercard
Call or Write for a Complete Price List
(503) 461-1136
Soft Solutions
907 River Rd., #98, Eugene, OR 97404
Fax (503) 485-4529

SAVE UP TO 50% ON EXTERNAL DRIVES FOR MACS

20MB Seagate 40ms $338
46MB Seagate 40ms $444
80MB $578/698
Seagate 28ms/Quantum 12ms
105MB Quantum 12ms $778

All drives sold complete w/cables, util. software, formatted & ready to use. 3 yr. warranty
Call for low, low prices on all Seagate, Quantum, Conner & CDC ext./int. drives
1-800-888-1197
Comp-U-Save
3857 Birch St. • Newport Beach, CA 92660

MacWEEK reaches 70,000 qualified subscribers each issue. That adds up to over 200,000 sales proposal opportunities *if* you take advantage of

MacWEEK's Market Center

To place your ad today, call
212-503-5131,
212-503-5122
or **800-825-4ADS.**

Here's The Difference

WE BUY MACS

The Maya Guarantee
Satisfaction is guaranteed. Maya Computer offers a one year parts & labor warranty on both new and used Macintosh computers. Return any product in saleable condition within 30 days of purchase for a cheerful refund or credit.

We Fix Macs

Maya's expert service technicians can save you hundreds of dollars by doing fully warranted repairs of only what's broken, all the way down to board level. We don't just swap out entire modules to fix an inexpensive component.

We Sell Macs

...one system or complete offices. Give Maya a call before you buy. At Maya Computer we use the technology we sell. Strictly Macintosh, Simply The Best!

Used Macintosh Systems with Maya's Exclusive One year Warranty
Macintosh 128k $295
Macintosh 512K E $625
Macintosh Plus $995
Macintosh Portable w/ 40meg HD $4757

New Equipment:

Printers:
Toshiba 24 pin dot matrix printers w/Mac Matrix:
P321 SL 24 pin $561
P321 SLC color $714
P341 SL wide carriage $750
P351 SX FAST 360cps $1165
Océ Model 5232B
Color PostScript Printer $13,432
Apple ImageWriter II $435
Texas Instr. PS35 microLaser $2340
Kodak Diconix M150
Portable Ink-jet printer w/ATM $522

SyQuest Drives & Cartridges:
DataRemovable 45 meg drive w/cartridge $849
SyQuest cartridges $79
MicroTech 45 meg drive w/cartridge $849

Video Products:
Micron Xceed 8 bit video card for Mac II or SE/30 13" Monitors $380
E-Machines Colorpage 15 $1199
AAPPS MicroTV $283
Sony CPD1304HG 14 inch Trinitron Monitor $775

Software:
CE Software QuickMail 5 user $175
CE Software QuickMail 10 user $259
CheckMark Multiledger $245
CheckMark Payroll $183
Tops v2.1 $138

Power Supplies:
Macintosh 128, 512 or plus NEW $175
Macintosh 128, 512 or Plus, reconditioned $125
Mac SE or SE/30 NEW $288
Mac II or IIx NEW $352
Mac IIcx or IIci NEW $343
Mac Plus Batteries $7

Hard Drives:
PortaPak Transportable Drives
30 meg 40 ms $439
46 meg 40 ms $469
40 meg 25 ms Conner low power $699
100 meg 25 ms $979
200 meg 19 ms $1579
155 meg TEAC Tape $699

Input Devices:
Voice Navigator $1074
Voice Navigator XA $1488

See us at MacWorld Booth #5528

Maya Computer
Waitsfield, Vermont
800-541-2318

Leave your mark on volume buyers through **MacWEEK's MarketCenter.**

Special Services/ Programming

For information or to place your Classified ad in **MacWEEK** call
Amy C. Loucks
(212) 503-5131
or
Mary Jo Nash
212-503-5122
or
800-825-4ADS

Custom Databases

Complete database contracting services – design, development, installation, user training and maintenance.

db Vista
Inside/Out
4th Dimension
Foxbase

National Computer Labs, Inc.

■ 940 Adams Street, Suite S
▲ Benicia, California 94510
◆ Phone: 707/745-5000
▼ Fax: 707/745-5084
● Applelink: D1792
■ CompuServe 76527,507

Toner Recharging

KEEP YOUR INC. IN THE BLACK WITH LASERINK

NEW! Desktop Fire Extinguishers
Halon Gas Safe for Computers & Printers $14.95

Toner Cartridge Recharge
Apple LaserWriters & HP LaserJets
and many more
$49
813 Maple • Ada, Ok 74820
800 274-6403

Red Heads Get Noticed!

We're not talking hair color—but ink color! It's neither gimmick nor frill—simply the best way to make your sales message stand out and attract the buyer's eye to your product. Put MacWEEK MarketCenter's red or yellow second-color options to work for you. Call your Account Representative at 212-503-5115 or 800-825-4237 today.

MacWEEK MarketCenter

Toner Recharging

Cartridges 800-541-2318

45 Meg Removables
ONE YEAR WARRANTY

Call us for expert consultation and the best prices on all hard drives and data storage solutions

$79 Maya Computer Waitsfield, Vermont

Used Equipment

SALES & REPAIRS

Service Parts

Serving corporate, government and educational buyers since 1985.

When you need genuine Apple® parts, call the market leader.

• 24 hour turn-around! •

Call now for a catalog!

1-800-274-5343

We are significant buyers of large inventories of Apple & Macintosh Equipment— Call today for a quote!

Pre-Owned Electronics, Inc.

30 Clematis Avenue • Waltham, MA 02154
(617) 891-6851 / Fax: (617) 891-3556

Apple is a registered trademark of Apple Computer, Inc. Pre-Owned Electronics, Inc. is not affiliated with Apple Computer, Inc.

MICRO EXCHANGE

WE BUY, SELL & REPAIR MACS

REPAIR SPECIAL: MAC POWER SUPPLIES $79
NEW EQUIPMENT SPECIAL: MACIIcx.....$3,195
MAC PLUS SYSTEM BOARD REPAIR.....$135

(201) 284-1200 FAX (201) 284-1550
682 Passaic Avenue • Nutley, New Jersey 07110

MacHeaven needs You!

We *buy & sell* used Macs & Mac peripherals.
We *rent* Mac systems
We also sell *new* Mac peripherals* and are featuring these products:

- Jasmine
- Dynamac
- Levco
- Seikosha
- Everex
- Olympia

* Call us if you'd like *your* product featured !!

(703) 263-2567

"Providing Good Homes to Experienced Macs Since 1987"™

CRA
790 S. UNIVERSITY PARKS DR.
SUITE 600
WACO, TEXAS 76706

WE BUY AND SELL NEW AND USED MACINTOSH COMPUTERS AND PERIPHERALS, ANY QUANTITY.

CLEARANCE SPECIALS

PS LASERPRINTER V.47 W/2 MEGS RAM	$2795
AST TURBOLASER PS W/3 MEGS RAM	$3295
RASTEROPS 24 BIT 19" COLOR CARD	$2250
IKEGAMI COLOR TWO PAGE DISPLAY	$2150
COLBY LAPTOP	CALL

NEW

MACINTOSH CPU's (SE, SE30, II, IIcx, IIx, AND IIci)	CALL
RAM 80NS GOLD CONTACTS	CALL
PERIPHERALS AND SOFTWARE	CALL
19" COLOR SONY MONITOR	CALL
RADIUS 32 BIT COLOR CARD FOR 19"	$3250
HARD DRIVES (ALL BRANDS AND SIZES)	CALL

CALL
1-800-950-8212
1-817-754-2120
FAX
1-817-754-2345

USED

APPLE LASERWRITER	$2195	SE/20 AND LISA EQUIPMENT	CALL
APPLE LASERWRITER PLUS	$2495	MAC II, 100Mb HD	$3200

Mac Parts!

Shreve Systems

We BUY Systems!
Trades & Upgrades-CALL!

2421 Malcolm St.
Shreveport,La. 71108

La. call 318-635-1121 * FAX 318-865-2006

1-800-227-3971

MACINTOSH HARD DRIVE REPAIR
& Data Recovery
• Over 12 years of hard drive experience! •
• PCB & HDA REPAIR ON MOST APPLE MACINTOSH AND PC HARD DRIVES • 6 MONTH WARRANTY •
COMPUTER PERIPHERAL REPAIR
7570 S. U.S. HWY. 1, SUITE 8/9, HYPOLOXO, FL 33462
(407) 586-0011 We Buy Non-Working Hard Drives & Drive PCB's

MacWEEK reaches 70,000 qualified subscribers each issue. That adds up to over 200,000 sales proposal opportunities *if* you take advantage of

MacWEEK's Market Center

To place your ad today, call
212-503-5131,
212-503-5122
or **800-825-4ADS.**

ADVERTISING INFORMATION

Paul Stafford
Director, Classified Sales

Kathryn J. Cumberlander
Group Advertising Director

Cherita Batiste
Advertising Coordinator

Ann M. Sheridan
Production Coordinator

Mary Jo Nash
(212) 503-5122

Amy C. Loucks
(212) 503-5131

or
(800) 825-4ADS

Serious Buyers.

That's who's reading MacWeek. 70,000 corporate, government and academic professionals who can and do buy Macintosh products in volume.

These people use their Macs to help them and their organizations gain a competitive advantage. They chase the cutting edge of new technology in order to get the most from their Macs — all the time.

That's why they need the weekly news format offered by MacWeek — by far the preferred newsweekly serving the Macintosh market.

Serious Selling...

What's the most cost effective way to sell to this lucrative audience? MacWeek Classified. No doubt about it. You can run display-type ads, with the option to use color to help your sales message stand out.

Give a call today to your National Classified Advertising Manager, Mary Jo Nash at 212-503-5122, Amy C. Loucks at 212-503-5131 or 800-825-4ADS. They'll help you develop the best marketing strategy for your product or service.

CAREER OPPORTUNITIES

Career Opportunities Information

For more information about placing an ad call:

Paul Forsey
National Accounts Manager
(212) 503-5173

Steve Russell
District Sales Representative
(212) 503-5162

James O'Keefe
Account Manager
(212) 503-5163

or call
(800) 288-HIRE

Send all camera ready artwork to

MacWEEK
Career Opportunities
One Park Ave.
3rd Floor
New York,
NY 10016

Telecopiers
(212) 503-5197
(212) 503-5469

Ad Closing
Friday, 11 AM (EST)
11 days before
issue date

COMPUTER ASSOCIATES INTERNATIONAL, INC., the world's leading independent developer and supplier of computer software, currently has challenging career opportunities at our Malvern, PA location.

QUALITY ASSURANCE ENGINEERS

You will have 2 years' Macintosh and/or Microsoft Windows™ experience in Q/A, a thorough understanding of debugging tools and familiarity with black box and white box testing. The ability to conduct test plans on both the component and system levels, and strong writing and communication skills are required.

TECHNICAL WRITERS

You will be involved in developing and maintaining technical documentation for graphics products. At least 2 years' experience as a software technical writer and excellent writing, editing and communication skills a must.

In return for your skills, we offer an excellent company paid benefits package and great growth opportunity. For immediate consideration, please send resume to: **COMPUTER ASSOCIATES INTERNATIONAL, INC., Route 206 and Orchard Road, P.O. Box 8, Princeton, NJ 08540, Att: Personnel Department MW2.** An equal opportunity employer m/f/v/h.

COMPUTER® ASSOCIATES
Software superior by design

Calling about a job?
Say you saw it in
MacWEEK.

MARKETING COMMUNICATIONS

As a leading manufacturer of Macintosh storage and memory products, Microtech International, Inc. is offering a unique opportunity in Marketing Communications Management. Requirements include trade show preparation, set-up, and management, as well as special functions including sports sponsorship events. Additional responsibilities will include liaison with Microtech's PR firm, maintaining direct communications with key editors and publications, media coordination and special research projects.

Five or more years experience in marketing communications, PR, and trade show coordination is required, as well as a BA degree or equivalent in Marketing, Communications, or related field.

Additional opportunities available in both Marketing and Sales, contact Bill Reed, Director of Sales & Marketing, Microtech International, Inc., 158 Commerce St., East Haven, CT 06512. 800-626-4276.

Wanted:

One very talented Macintosh software developer. Expertise in MPW C or Pascal, and Assembly required. C++ and MacApp familiarity is desired. File Systems/Mass Storage experience is also a plus. Must have exhaustive knowledge of Mac internals and a sense of vision and enthusiasm for utility application development. Please send resume to:

Oksanna Bodrouk
SuperMac Technology
485 Potrero
Sunnyvale, CA 94086
Fax No. 408 735-7250

Tech Writers and Mac Programmers!

If you're an exceptional tech writer, if you know and love the Mac, and if you want to help develop a wide range of high-quality technical and marketing documents, we need you.

If you have two years programming experience in C, if you know the Mac OS well, and if you want to work on exciting high-end Mac projects using advanced tools, we need you.

Micro Dynamics is a small, vibrant, rapidly-growing software company in Silver Spring, MD. We're also the world's leading vendor of mid-volume imaging systems. 301/589-6300.

IT'S TIME YOU FOUND THE TECHNICAL TALENT YOU NEED.

Need qualified applicants to fill computer jobs? Week after week, enterprising recruiters rely on MacWEEK Career Opportunities to find them. We'll put the country's most experienced computer professionals at your disposal, from **Systems and Communications specialists to Engineering/R&D Graphics, and Technical Sales & Marketing professionals.**

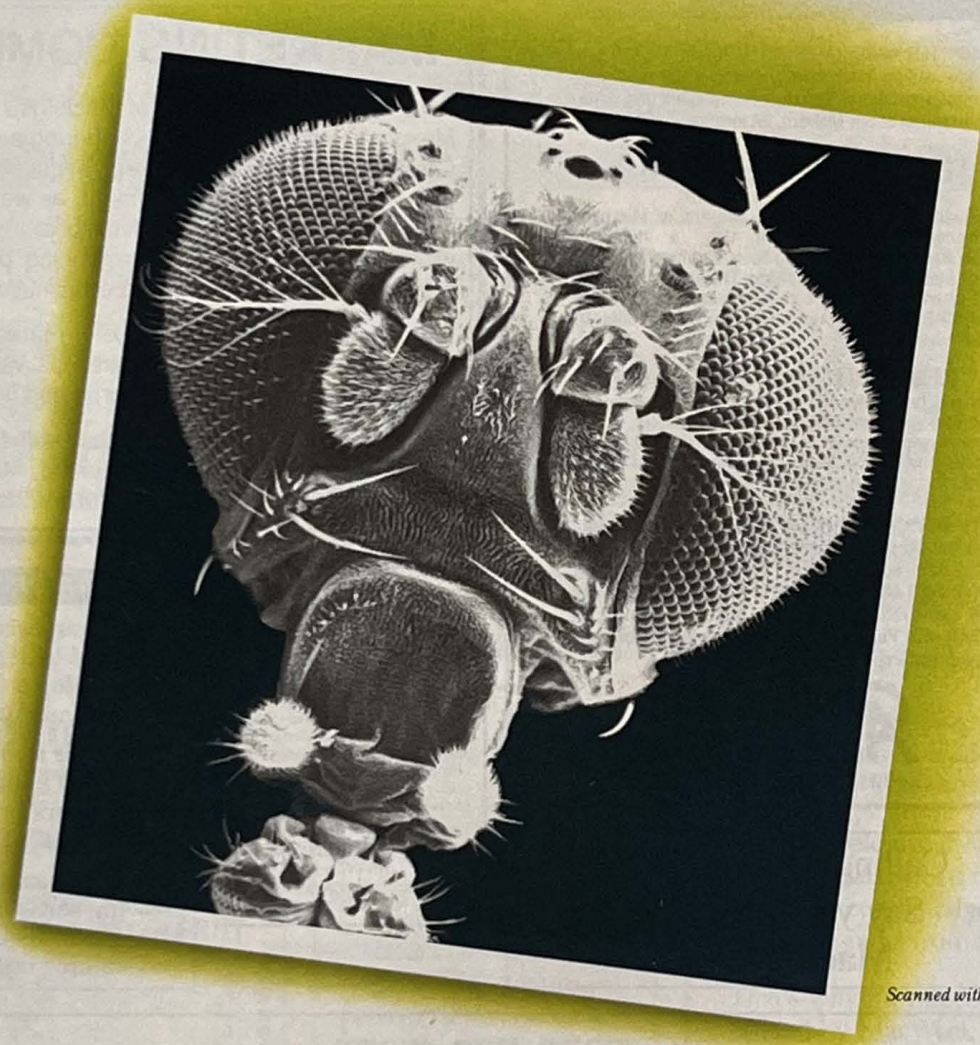
They're waiting to see your ad.

ADVERTISE IN MacWEEK CAREER OPPORTUNITIES

For more information or to place an ad, call Paul Forsey at 212-503-5173 or 800-288-HIRE

MacWEEK

8-bit upgrades invade Apple scanner.



Scanned with the Abaton 8-bit Upgrade

Get all the gory details.

In as few as thirty minutes, an 8-bit Abaton Upgrade can invade your Apple scanner. Leaving you with more detail in your scanned images than before. Because Abaton's 8-bit Upgrade lets your 4-bit Apple scanner read 240 more shades of gray than the current 16. So your black and white images have all the rich details found in your original photos.

And this invasion won't be a nightmare. Just place your order, and within 48 hours, a technician will call to schedule an upgrade encounter at your home or office. There's no risk, since your upgraded scanner is covered for 90 days. Or you can extend the warranty to suit your needs.

But best of all, the Abaton 8-bit Upgrade makes it easier for you to publish. You can see every page before it's sent to a phototypesetter. And that's a publishing plus.

If you want all the gory details on Abaton's 8-bit Upgrade invasion, call Abaton at *1-800-444-5321*, and let Abaton make your ideas easier to publish.

Abaton

We Make Your Ideas Easier to Publish™

Abaton and "We Make Your Ideas Easier to Publish" are trademarks of Everex Systems, Inc. Other brand names and product names are trademarks and registered trademarks of their respective companies.

Connect moves to streamline troubled operation

By Carolyn Said

Cupertino, Calif. — Connect, the on-line service once known as MacNET, and Connect Inc., the Cupertino, Calif.-based company that runs it, have been plagued by a host of problems during the past few months, but the company said it hopes to turn its fortunes around.

The problems, ranging from technical malfunctions to staff layoffs to a rate increase, have fueled speculation that Connect's future is in jeopardy. "Not so," said R. Barry Borden, president and CEO. "Connect is a terrific company with a great future."

Borden, who assumed the mantle in December from Barry Nolan, president and CEO since last July, attributed the company's recent financial woes to poor marketing and a too-large staff.

Spurred by venture capitalists who hold two out of three board positions, Connect has now taken a number of steps to bring its revenues in line with income. In addition, "We're on the trail looking for financial support," Borden said.

Since November, Connect has

See Connect, next page

Warner goes mass-market route for musical CD-ROM

Warner New Media's "Mozart's Magic Flute" is a three-disc audio CD-ROM/HyperCard set.

By Roger Karraker

Burbank, Calif. — One of the world's largest entertainment corporations this week began shipping what it termed "the most widely distributed piece of software in computing history."

Ironically, the product is aimed squarely at one of the Macintosh world's smallest markets, the estimated 10,000 owners of Apple and Apple-compatible CD-ROM drives.

The product, "Mozart's Magic Flute," is a three-disc audio CD-ROM/HyperCard set. Publisher Warner New Media, a division of giant Time-Warner that is based here, is offering it not only through traditional computer outlets — it is being distributed by both Ingram-Micro D of Santa Ana, Calif., and Softsel-MicroAmerica of Inglewood, Calif. — but also through the worldwide Warner Records' distribution network of thousands of record stores and audio outlets.

If the unique two-pronged marketing strategy works, it could bring vitality to the still sluggish Mac CD-ROM market.

"The Magic Flute" is the first in a series called "Audio Notes." Warner New Media President Stan Cornyn said he is so convinced the Mac CD-ROM market is going to grow substantially in the near future that Warner will issue a dozen more CD-ROM/HyperCard titles in the series this year. More than 20 "Audio Notes" titles are now in production or planning.

"We're trying to create new phonographs," said Cornyn, who professes to be unconcerned by the small number of Apple-compatible CD players that have been sold since the AppleCD SC appeared 22 months ago. "There are many companies that believe that selling CD-ROM players is their business," he said last week, gesturing toward a Mac-compatible player from NEC Technologies Inc. "Down the road there's got to be a $200 CD-ROM. They aren't that different from consumer CD players."

As a further indication of its commitment to the Mac CD-ROM market, Warner will internationalize the Audio Notes line. "The Magic Flute" is now being translated into Japanese, with translations into European languages to follow.

In concept and marketing, "The Magic Flute" differs markedly from "Beethoven's Ninth Symphony," the first Mac-and-music CD package, which was released by The Voyager Co. of Santa Monica, Calif., last November.

Both products contain acclaimed musical performances, attractive HyperCard interfaces, commentary, quizzes for use in schools and extensive musical glossaries. But Voyager, a small company primarily known for

See 'Magic Flute,' next page

Creative director Dubberly to scale back role at Apple

By Stuart Silverstone

Cupertino, Calif. — Hugh Dubberly, creative director for computer graphics in Apple's Communications Design Department, will reduce his workload at Apple to part time to accept a new position as chairman of the computer graphics program at the Art Center College of Design in Pasadena, Calif.

Dubberly held the position in the department, which was formerly known as Creative Services, for two years. His decision to scale back his role came one month after Doris Mitsch, a member of his design team, left the group to become a partner at Clement Mok Designs.

"We did about as much as we could [at Apple]," Mitsch said. "I decided it was time to move on."

Dubberly will continue to spend part of his time handling management and creative duties at Apple. He also will promote idea exchanges between Apple and the education and design communities.

"It's a win-win situation," said Bruce Mowry, Apple's director of market information and communications. "We hope to learn through Hugh exactly how people are using our technology in design. I don't think we are giving up anything by having Hugh part time."

While at Apple, Mitsch and Dubberly played crucial roles in designing the Knowledge Navigator video and other print, multimedia and event presentations. □

CHUCK NACKE/PICTURE GROUP

Hugh Dubberly, creative director for computer graphics at Apple, will divide his time between Apple and academia.

Business BRIEFS

Retail giants ComputerLand, Businessland post losses

Pleasanton, Calif. — ComputerLand Corp. reported losses for the past fiscal year of $34.1 million on revenues of $122.6 million. The computer retail chain, which operates franchise outlets and is based here, attributed the loss to mismanagement in its Australian operations. ComputerLand said that without these losses, it would have had net income of $12.3 million, a 54 percent increase from the year before.

Businessland Inc., the San Jose-Calif.-based chain, reported a loss of $1.2 million for the quarter ended Dec. 31, primarily because of a $7.5 million charge for reducing its work force (see MacWEEK, Jan. 16).

Farallon lures two prominent programmers to its ranks

Emeryville, Calif. — Farallon Computing Inc. last week announced the addition of two well-known programmers to its staff of 180.

Jay Fenton, co-founder of MacroMind Inc. and original author of its VideoWorks and MusicWorks applications, will be a principal engineer at the Emeryville, Calif.-based company, researching future multimedia architectures. For the past three years, Fenton, 35, has been a part of Apple's Vivarium project, developing Playground, an experimental multimedia programming environment for children.

Robert Pariseau, primary software designer for the Amiga computer, will be Farallon's director of engineering. Pariseau, 36, holds a bachelor's degree from Princeton University and a master's degree from Harvard University, both in theoretical astrophysics.

Farallon said it is "focused on personal communications applications for ISDN (Integrated Services Digital Network), integrating voice, data, fax and video."

Adobe/Printware settlement changes name of PrintScript

St. Paul, Minn. — Continuing its policy of aggressively protecting its PostScript trademark, Adobe Systems Inc. of Mountain View, Calif., last month settled its lawsuit with Printware Inc., a printer manufacturer based here.

Adobe asserted that PrintScript, the original name of Printware's PostScript clone interpreter, was "uncomfortably close" to that of PostScript, according to a statement issued by Printware. Effective Feb. 1, the interpreter will be renamed PrintStyle.

The settlement allows Printware to "make use of the PostScript page description language" and says Adobe will give Printware advance information on upcoming PostScript extensions.

"The advantage for us is that we have the opportunity to keep up with this technology," said Tom Petschauer, Printware vice president of finance and administration. "It isn't necessarily an advantage for Adobe, since we can update or expand our interpreter sooner. What it can claim is that Printware is following its lead."

Diane Savage, an attorney representing Adobe, said that the company had taken Printware to court because "the concept was similar, the product was directly competitive and the advertising was confusing."

PC clone outlet CompuAdd sets up Mac division

Austin, Texas — CompuAdd Corp., an IBM PC clone mail-order outlet and retail chain based here, has established a Macintosh division that will sell software, third-party peripherals and hardware under its own label beginning in April, according to company sources.

"Our goal is to mail a catalog to every Mac owner by the end of the year," said Michael Shapiro, who heads CompuAdd's Mac division. The debut catalog will offer 300 to 600 software packages and toll-free technical support, he said.

CompuAdd last year mailed 24 million catalogs to PC owners.

NeXT reaches pact with ESL in move to capture federal contracts

Redwood City, Calif. — In a move designed to better position it for a share of the federal market, NeXT Inc. of Redwood City, Calif., has signed ESL Inc. as its first federal systems integrator.

Sunnyvale, Calif.-based ESL will offer the NeXT Computer System to government agencies and to prime contractors that purchase on behalf of the government.

According to ESL officials, the company will purchase NeXT computers, peripherals and motherboards at discounted prices; develop custom software and hardware for the NeXT machine; and incorporate NeXT boards into ESL custom systems.

"We are excited about how rapidly this machine will allow us to integrate text, graphics, imagery and signal processing applications," said Gary W. Fuller, ESL workstation products manager.

The company said it intends to make the NeXT computer an integral part of its efforts to create a new market for equipment for gathering and analyzing intelligence.

ESL Inc. is a subsidiary of TRW Inc. of Cleveland. □

BACKUP Breakthrough...

155 MB SCSI Tape Backup System for the Price of 60 MB!

The MicroPak 155 MB Tape Backup System is remarkable. It can stream at 5 MB per minute. It is small enough to be shared. It retails for less than $1,000.

Think about it. How much is your data worth? Can you afford to recreate files? An MBT-155 Tape Backup System is an effective way to prevent data loss.

Our tape utility software is easy to use and allows for file-by-file backup and recovery, as well as, mirror image and incremental backup and restore.

The power requirements of the MPT-155 are low. It is designed so that it can safely use the battery of the Macintosh Portable.

MicroNet offers a wide range of Macintosh streaming tape backup systems and hard disk drives that are designed to fit the needs of the entry level user to that of a network manager.

Data sheets and the name of nearest dealer on request.

"QUALITY YOU CAN COUNT ON"

Macintosh is a registered trademark of Apple Computer, Inc.

We offer the finest in Internal and External Hard Disk Drive Systems from 20 MB to 2,022 MB, Tape Backup to 525 MB, 45 MB Removable Cartridge, DAT and Rewritable Optical Systems.

MicroNet Technology, Inc.

20 MASON • IRVINE, CA 92718 • TELEPHONE: (714) 837-6033
FAX: (714) 837-1164 • APPLELINK: D1656 • COMPUSERVE: 76004,1611 • CONNECT: MICRONET

'Magic Flute'

From previous page

its videophile laser discs, chose to create two discs of HyperCard stacks and package them with an existing London audio CD, which is available without the HyperCard stacks in audio outlets.

The HyperCard stacks include extensive basic music instruction, written by University of California at Los Angeles Professor Robert Winter, and illustrate some musical concepts by comparing sounds digitized on the Mac with those in the recorded symphony.

Warner, with its control over copyrighted performances, chose a more expensive route, creating entirely new CDs with the HyperCard stacks and additional musical elements pressed on the discs. Although based on a 1988 German CD release, the Warner version incorporates more than 200 new audio tracks — narration, instrument samples, a rare earlier recording, even excerpts from Meredith Willson's "The Music Man," to illustrate a glossary item on patter songs.

The accompanying HyperCard stacks contain more than 7,000 cards, with German and English texts, stage directions, commentary, annotations — and the ability to control a videodisc of the opera. Many of the main themes are also recorded as MIDI (musical instrument digital interface) data, for use with music applications and synthesizers.

Warner plans to release one new title a month. Initially, the releases will be of classical music — the second release will be a single CD of Beethoven's string quartets — but will expand to other types of music.

"In classical music you have the three B's," Cornyn said, "Brahms, Bach and Beethoven. But this is Warner, so undoubtedly we'll have the four B's — Brahms, Bach, Beethoven and Batman." There will be musicology and rap music products, he said, and future stacks will be in color, but usable on black-and-white Macs. □

Connect

From previous page

trimmed its staff from 49 to 30, laying off 15 people and eliminating four positions through attrition. Joseph Schaller, one of the three principal architects of the Connect software, was among those let go, according to Borden, who expressed regret at "not being able to continue paying him."

Connect raised its rates on Jan. 1, increasing connect-time charges by 20 percent and eliminating free transfer of the first 2,000 characters of data a minute.

Users, already irked by a rash of technical problems that included six outages and frequent "disCONNECTions" from the network, were vocal in their protests about the rate increase.

"Coming in the face of the outages we had, maybe it wasn't the most politic of timing," Borden said.

The technical problems resulted from "a lot of accidental things happening at once," said Stu Gitlow, forum manager of the Macintosh Symposium on Connect. He cited damage from the Oct. 17 Loma Prieta earthquake and relocation of the company's mainframe. "The problems have largely been resolved," Borden said.

Despite recent adversity, Connect's users offer "a lot of strong support," Borden said. "The overall thrust from people is, 'We love the service, it's unique. Please make the company right.' "

Borden estimated that about half of Connect's 15,000 subscribers are individual users; the other half belong to business and professional organizations, the market Connect is targeting for growth. □

A GOOD NAME TO PUT NEXT TO APPLE.

Talk price. Talk reliability. Talk features. The new Fujitsu 3.5″ drive is a walkaway winner as the new 800K drive of choice for the Macintosh.®

- Price? Way under the cost of the comparable Apple drive.
- Reliability? It comes with a 12-month, no-questions-asked warranty you can extend to 18 months at no extra charge!
- Features? A real button for emergency ejection of disks. Goodbye paper clips! An activity light to show when the drive's in use. And silence. It's noticeably quieter than other drives.
- No quality shortcuts. It's the only 3.5″ drive built to the same demanding standards as Fujitsu's world-famous mainframe drives. All FCC shielding and UL safety requirements have been rigorously adhered to. Plus, all warranty work is done by Fujitsu directly.

- Compatible with every Mac except the Macintosh II. Available in *both* beige and platinum. And, you can set it up vertical, inclined or flat.

Done one disk swap too many? Want the most drive you can get for your money? Give us a call today. We'll make it easy for you to put Fujitsu, one of the world's leading names in computers and peripherals next to your favorite Mac. For more information, call 1-800-626-4686.

FUJITSU

© 1989 Fujitsu America. Macintosh is a registered trademark of Apple Computer Inc.

FUJITSU AMERICA • COMPUTER PRODUCTS GROUP

Mac and Apple II as one

As if last week's draconian suspension of the executive transportation program weren't enough, the Knife hears that the cutbacks are also having an effect on the working class at Apple. Long used to a wide range of Apple-logoed fashion accessories supplied for almost any project or occasion, wage slaves will now be supplied with T-shirts only. Undoubtedly high-quality cotton T-shirts, but T-shirts nevertheless. Things are tough all over.

T-shirts or no, there are rumblings coming out of Cupertino that after pondering the future of the Apple II family, Apple has apparently hit upon the idea of offering a low-cost color Mac as a replacement.

The only fly in this ointment is that plans call for a four-bit color machine. Four bits is adequate to run Apple II software on the rumored Apple II emulation card, but perhaps developers can convince Apple to spend a little more in manufacturing costs and produce a low-end machine that delivers the eight-bit color most commonly supported by today's applications.

A replacement reportedly is in the works for the aging ImageWriter II, too. The new impact printer is said to be faster, lighter and less expensive than the current model.

The Knife has cancelled his reservations for Washington and instead reserved a suite near the San Jose Convention Center for the third week of March. Seems Apple has decided after all to roll out the IIxi close to home, with satellite feeds to other sites.

It's the movement. In the future we will all spend a lot of time in meetings watching exquisite animated presentations. At least that seems to be the prevailing wisdom at several major Mac software developers. The Knife reports that an experienced programmer working within walking distance of the beach in South Carolina is developing an animation generator that has created considerable interest. Sources say that it's "animation creation for the complete idiot."

One big developer is said to think that the new software will be a cornerstone product and judged it to be as important to animated presentations as the original PageMaker was to desktop publishing. While the truth of this remains to be seen, the Knife has learned that two well-known publishers have already submitted bids for the unfinished product and two more are interested. Beta testing isn't expected to begin for several months.

A little AppleTalk. The Knife has learned that the soon-to-be-announced Hewlett-Packard LaserJet III replacement for the LaserJet II will also be available with an AppleTalk interface and even a PostScript option. HP is said to be weighing some aggressive prices, perhaps on the order of $3,000 for the whole bundle.

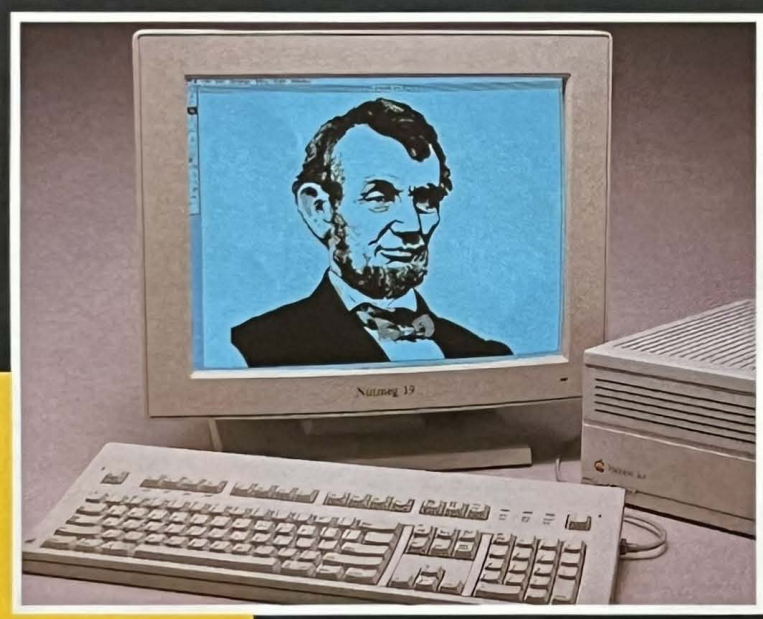
Also in the soon-to-be-announced category is a new network modem from Shiva. The 9,600-bps device will incorporate the V.32 standard and have dial-in and fax capabilities. A firm release date has not been set, but the modem should arrive with a $2,000 price tag.

Build a better mouse pad and the world will make a path to your door. That seemed to be the plan, anyway, when Apple Canada recently did a direct mailing to all registered users. As a hook to get customers back into the store so the dealer could have another shot, Apple promised a free mouse pad and a chance to register to win one of three Mac Portables. Unfortunately, the mouse pads proved to be defective and were recalled. How do you build a batch of defective mouse pads anyway? Here's hoping the three Mac Portables are of significantly higher quality.

NeXTStep it! Where does an 800-pound gorilla sleep? Anywhere he wants, but in this business it's sometimes hard to tell who the gorilla is. Take the case of Microsoft and IBM, for example. IBM's the big guy, right? When it comes to new versions of Presentation Manager, maybe not. The project is very much behind in schedule, and the Knife reports that milestones are continually missed. And what can IBM do about it? Well, one rumor being heard with increased frequency is that IBM is seriously considering making NeXTStep the primary graphical user interface operating system for the OS/2 line. That should light a fire under Microsoft. Knife spies claim to have seen it running on a Model 70, in addition to a Sun workstation, but that's another story. ... □

Talk to Mac the Knife, the man who can tell the difference between a frozen tamale and a hot insider industry tip worthy of a MacWEEK mug. Call the Knife at (415) 243-3500 or MCI (MactheKnife).

Affordable Perfection



The Nutmeg 19-perfection at a fair price.

The Nutmeg 19 monochrome monitor and its graphics interface are a unique pair of products which allow Macintosh users to gain from the experience of two key graphics systems suppliers. Our monitors are made by the foremost supplier of monitors to the world's best known electronics and computer manufacturers; Nutmeg is the premier supplier of a full line of board level video products for all Macintosh computers. Together, they offer the ultimate in crisp, clear monochrome video systems for the Macintosh -- at a price which will please you.

The Nutmeg 19 has 1024 x 768 pixels, 78Hz refresh rate, 72dpi. All Nutmeg video products for the SE/30 and Macintosh II family come with a custom copy of Berkeley Systems' Stepping Out II virtual screen software.

Nutmeg Graphics Boards

	Plus	SE	SE/30	II	IIx	IIcx	IIci
Nutmeg 15" FPD	✔	✔	✔	✔	✔	✔	✔
Nutmeg 19" DPD	✔	✔	✔	✔	✔	✔	✔
Apple Portrait Display		✔	✔				
Apple Two-Page Monitor		✔	✔				
Apple 13" Color Monitor			✔	✔	✔	✔	✔
Trinitron® 19" Color Monitor			✔	✔	✔	✔	✔
Datashow®, QA50 pads			✔	✔	✔	✔	✔

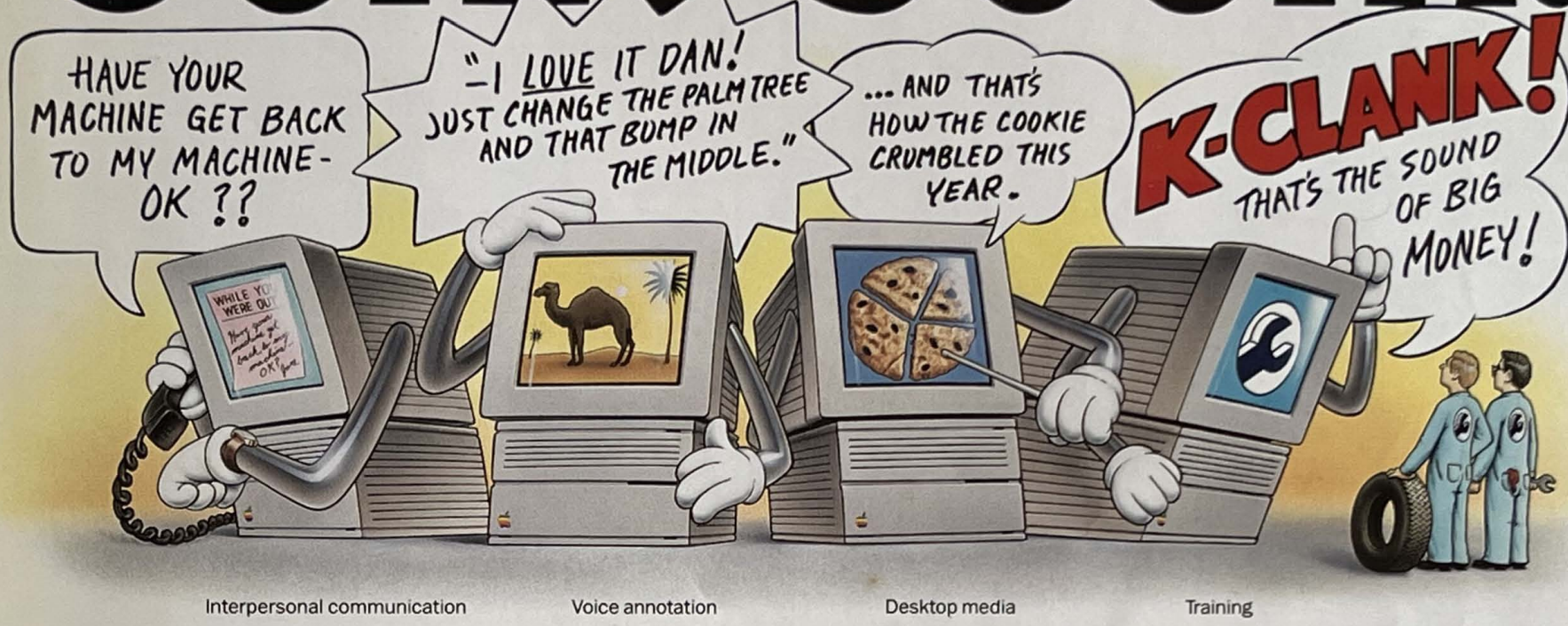
See your Apple dealer, or call Nutmeg at **800-777-8439**.

Nutmeg Systems

Nutmeg Systems, Inc.
25 South Avenue
New Canaan, CT 06840
(203) 966-3226
FAX: (203) 966-7972

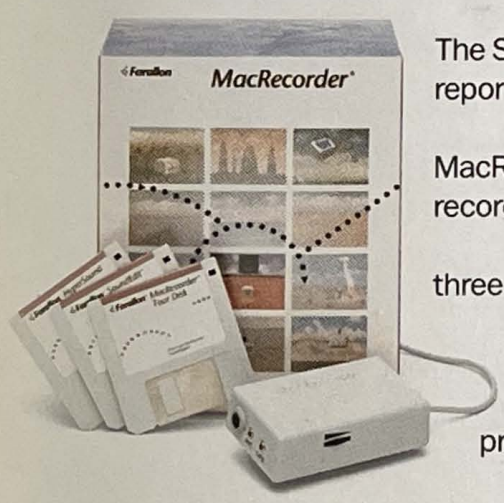
© Copyright 1989 Nutmeg Systems, Inc. All rights reserved.
Macintosh is a registered trademark of Apple Computer, Inc.

Sonic boom.


HAVE YOUR MACHINE GET BACK TO MY MACHINE- OK ??
"-I LOVE IT DAN! JUST CHANGE THE PALM TREE AND THAT BUMP IN THE MIDDLE."
... AND THAT'S HOW THE COOKIE CRUMBLED THIS YEAR.
K-CLANK! THAT'S THE SOUND OF BIG MONEY!
WHILE YOU WERE OUT
Interpersonal communication
Voice annotation
Desktop media
Training

Break the sound barrier with MacRecorder 2.0

So you've just finished writing your presentation on the effects of airport noise on family life, and even you're not impressed. It's just business as usual—words and graphs.



Suddenly, you can hear it. Jets roaring off the runway! Babies crying! Dogs howling! The Senator's voice backing your presentation with oratorical persuasion, "Based on this report, we should scrap airport expansion."

What you need are the sounds of the new MacRecorder 2.0 Sound System. MacRecorder is an audio workshop that lets you record, edit, and play back live or pre-recorded sound on your Macintosh.

Plug the MacRecorder digitizer into the back of your Macintosh, and use one of the three MacRecorder software packages to record your sound track.

HyperSound software lets you record and save sound directly into HyperCard. You can even play stereo sound from any HyperCard stack. And with HyperSound's new memory-saving sound compression features, you can produce multimedia presentations small enough to fit on floppy disks.

What's more, the new HyperSound Toolkit gives you programming tools to make interactive sound stacks. You can play and record compressed sound from within your own HyperCard stacks.

When you're ready to edit, mix, or enhance your sound, SoundEdit version 2.0 offers you new sound compression capabilities (including Macintosh ACE), and an even more impressive library of effects. SoundEdit also features Spectrogram and Sonogram, new tools to help you analyze the frequencies of live or recorded sound.

So before you write another mute presentation, join the sonic boom. Call (415) 596-9000 for more information.

Farallon™

2000 Powell St., Suite 600
Emeryville, California 94608

FAX: (415) 596-9020. MacRecorder is a registered trademark, and SoundEdit and HyperSound are trademarks of Farallon Computing, Inc. HyperCard and Macintosh are registered trademarks of Apple Computer, Inc. Macintosh ACE: Macintosh Audio Compression Expansion. ©Farallon Computing, 1989.

Network Productivity Is No Longer An Ether/Or Proposition.

If you have EtherTalk™ in your office, you'll appreciate EtherGate™ – the first truly universal productivity solution for EtherTalk.™ You no longer need one box to serve as a gateway, another to share serial devices and a third to connect to remote networks.

EtherGate does it all. Now you can connect an EtherTalk LAN and two LocalTalk LANs to create a fully-functional internet. Link an EtherTalk/LocalTalk internet to a serial port, so workstations on either side can access a printer, plotter or just about any other serial device. Or use the serial port and a modem to connect to a remote EtherTalk or LocalTalk internet. You can even dial in to your internet through EtherGate from a remote Mac or PC and a modem. EtherGate gives you complete access control and security features, too. Network productivity is no longer an Ether/or proposition. If you have EtherTalk, you need EtherGate. For more information call Shiva at **1-800-458-3550.**

EtherGate™
by Shiva

We're Putting Networks To Work®

Shiva Corporation, 155 Second St., Cambridge, MA 02141

All product names are trademarks of their respective manufacturers.